APRIL 18, 1942

Railway Age

Founded in 1856

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"roller bearings decreased the liability of delays 90 times"

—A. A. Raymond, Superintendent Fuel and Locomotive Performance, New York Central System.

We quote the above from a paper entitled, "Utilization of Steam Passenger Locomotives" presented at the Semi-Annual Meeting of The American Society of Mechanical Engineers, Kansas City, Mo., June 16 - 19, 1941.

This statement concerns the performance of locomotives equipped with roller bearing engine trucks compared with locomotives with friction bearing engine trucks. During five years service the roller bearing engine truck locomotives averaged 45,000,000 miles per delay, whereas the friction bearing engine truck locomotives averaged only 500,000 miles per delay, which means, as Mr. Raymond says, that the roller bearings decreased the liability of delays 90 times.

Commenting on the performance of Hudson type locomotives equipped with roller-bearing driving axles compared with similar locomotives having friction bearing axles, Mr. Raymond states: "Over an eight-year period there were 3,376 delays with friction-bearing driving boxes, or an average of 47 a year, and with the yearly mileage of approximately 14,000,000 this would mean 297,000 miles per delay. Roller bearings during the same period show no delays on the road, although for the last three years these locomotives have averaged 6,626,150 miles per year.

"In the eight-year period (1933-1940) it is found that on tender trucks the roller bearings made 60 times the mileage of the friction bearings per delay. Trailer trucks with friction bearings during the same period made 200,000 miles per delay, while with roller bearings there were 5,000,000 locomotive-miles per delay.

"Perhaps the confidence the railroad has in roller bearings can best be described by saying that there are 350 locomotives equipped with engine truck roller bearings, 309 locomotives with tender-truck roller bearings and a total of 84 locomotives, including all the newer locomotives, with roller bearings on driving boxes."

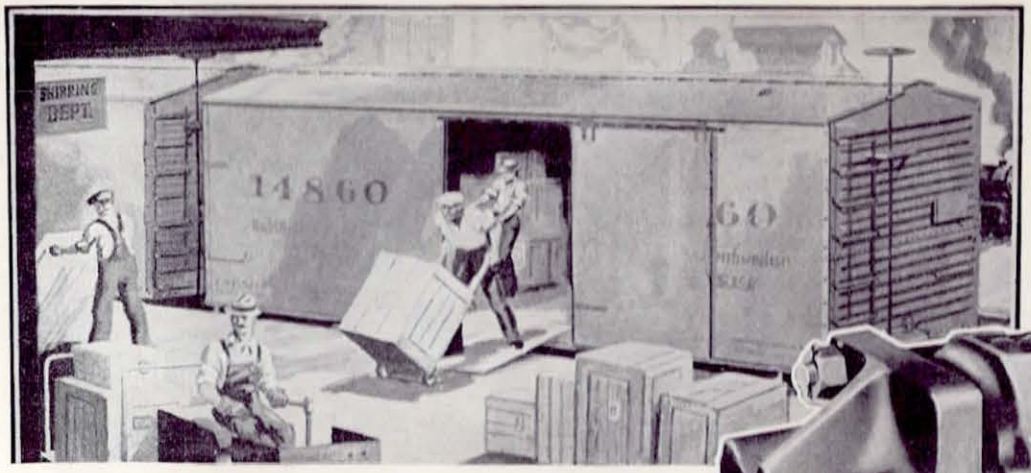
THE TIMKEN ROLLER BEARING COMPANY, CANTON, OHIO

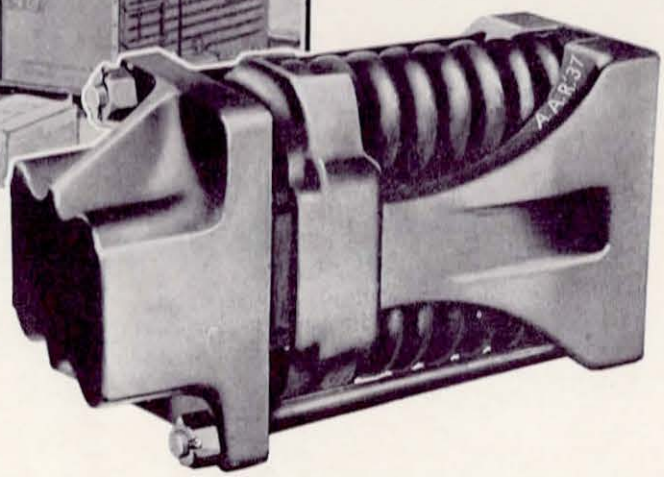
TIMKEN

TRADE-MARK REG. U. S. PAT. OFF.

RAILWAY ROLLER BEARINGS

Manufacturers of Timken Tapered Roller Bearings for automobiles, motor trucks, railroad cars and locomotives and all kinds of industrial machinery; Timken Alloy Steels and Carbon and Alloy Seamless Tubing; and Timken Rock Bits.





Lading O.K.

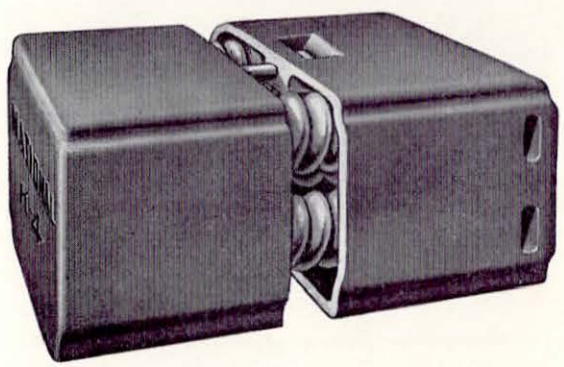
THAT means fewer damage claims, fewer delays, and reduced maintenance.

The condition of the lading at destination tells the story of draft gear protection:

This protection to lading means also that the car itself is protected from damaging shocks.

National M-17-A Draft Gear by its smooth action and great ultimate capacity affords this protection to both car and lading.

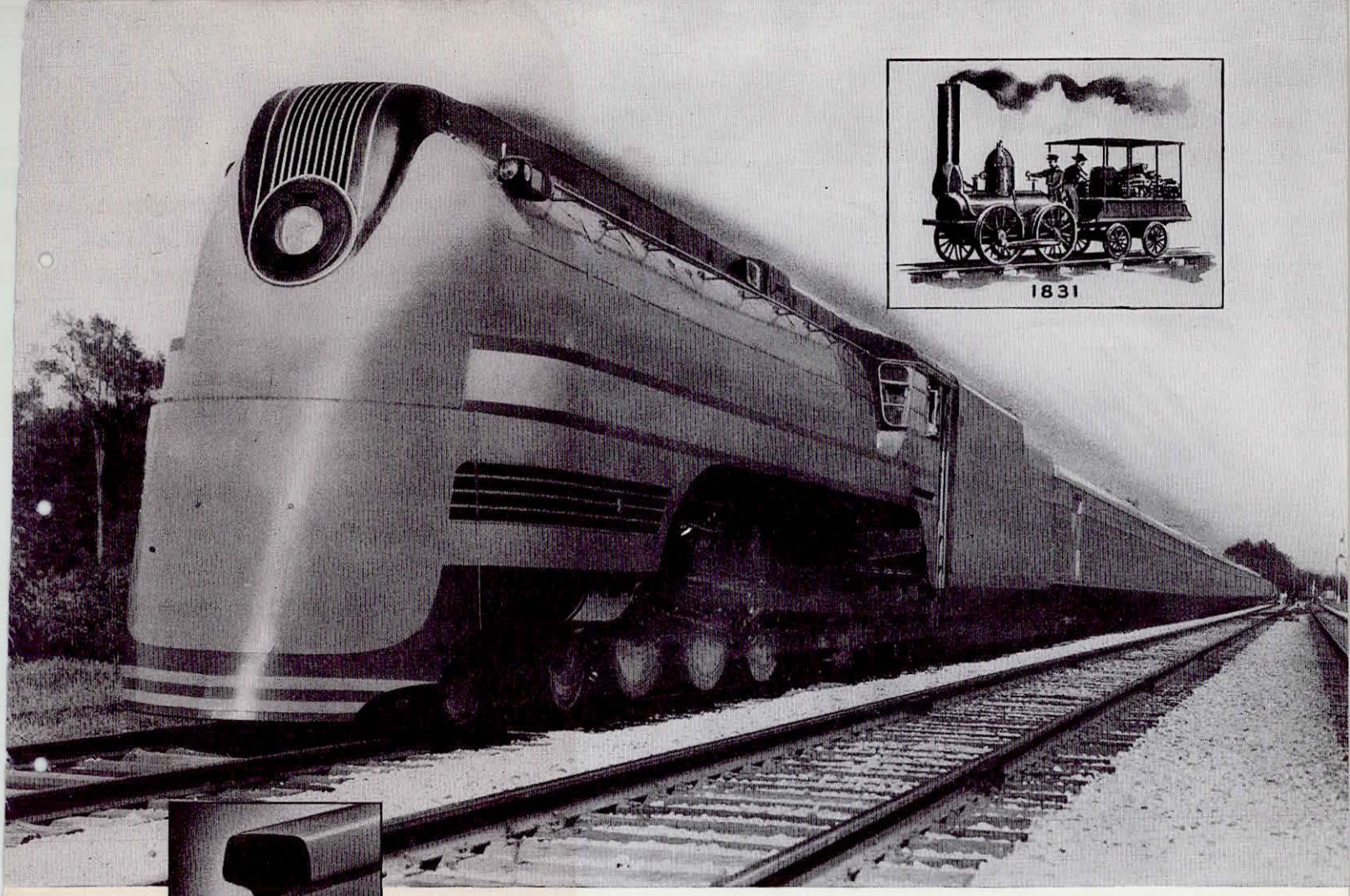
NATIONAL M-17-A DRAFT GEAR
A.A.R. Approved



National K-4 Draft Gear designed especially for passenger car service, starts action smoothly, gradually building up resistance sufficient to absorb the heavy blows without shock, and releases quickly and smoothly. Modern streamlined trains require such a gear.

NATIONAL MALLEABLE AND STEEL CASTINGS CO.
General Offices: CLEVELAND, OHIO
Sales Offices: New York, Philadelphia, Chicago, St. Louis, San Francisco
Works: Cleveland, Chicago, Indianapolis, Sharon, Pa., Melrose Park, Ill.

Published weekly by Simmons-Boardman Publishing Corporation, 1309 Noble Street, Philadelphia, Pa. Entered as second class matter, January 4, 1933, at the Post Office at Philadelphia, Pa., under the act of March 3, 1879. Subscription price $6.00 for one year U. S. and Canada. Single copies, 25 cents each. Vol. 112, No. 16.



The Difference is 100 MILES AN HOUR—WITH Safety

In the early days of American railroading, strap rails, weighing only 19 lbs. per yard, carried traffic at 10 to 12 miles an hour. Locomotives weighed 7½ tons and loaded trains 15 tons.

Today, America's crack streamliners, speed along at 110 miles an hour on rails that weigh from 110 to 131 lbs. per yard—and, 4000-ton freight trains, pulled by giant 350-ton locomotives, attain maximum speeds of 75 miles per hour—all with far greater safety than was thought possible in the days of slower speeds and lighter trains.

Contributing to modern speeds and safety are the thousands of tons of Inland Control-Cooled Rails now in the main line tracks of American railroads. These rails, made by a special process which prevents shatter cracks, withstand great bending stresses, shock, vibration, and wear. They assure long service and maximum safety for the heavier and faster traffic that is so essential to America's war effort.

Inland Control-Cooled Rails, like many other Inland steelmaking developments perfected and used in time of peace, now give America greater strength in her fight for victory.

SHEETS · STRIP · TIN PLATE · BARS · PLATES · FLOOR PLATE · STRUCTURALS · PILING
RAILS · TRACK ACCESSORIES · REINFORCING BARS

Dedicated to Victory

INLAND STEEL CO.

38 S. Dearborn Street, Chicago • Sales Offices: Milwaukee, Detroit, St. Paul, St. Louis, Kansas City, Cincinnati, New York

Timely help

FOR ALL 4 MAINTENANCE JOBS

Westinghouse

Time saver for American Railroads

1

RENEWAL PARTS

17 Warehouses located throughout the country carry an adequate stock of frequently used electrical renewal parts.

2

PLANTS FOR MAJOR REPAIRS NEAR ALL RAIL CENTERS

34 completely equipped manufacturing and repair plants are ready to speed major electrical repairs.

3

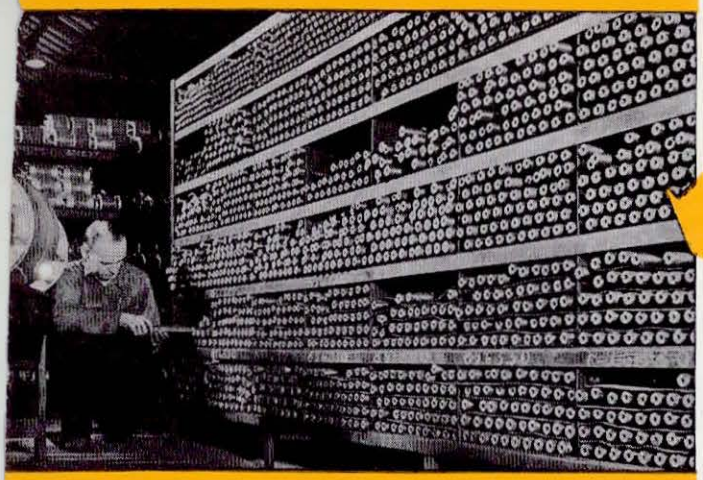
WELDING EQUIPMENT FOR EVERY RAILROAD JOB

This includes a-c and d-c welders, both portable and stationary; engine-driven welders; and equipment for semiautomatic process welding.

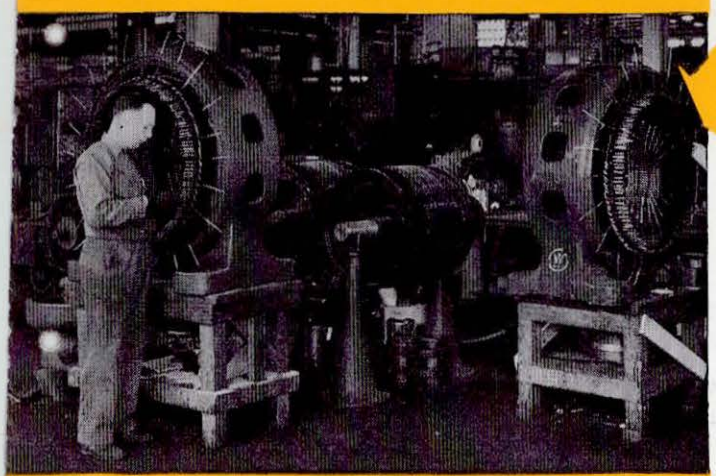
4

HELP FOR MAINTENANCE MEN

Valuable information from Westinghouse experiences, on how to keep electrical equipment on the job. Mail the coupon.

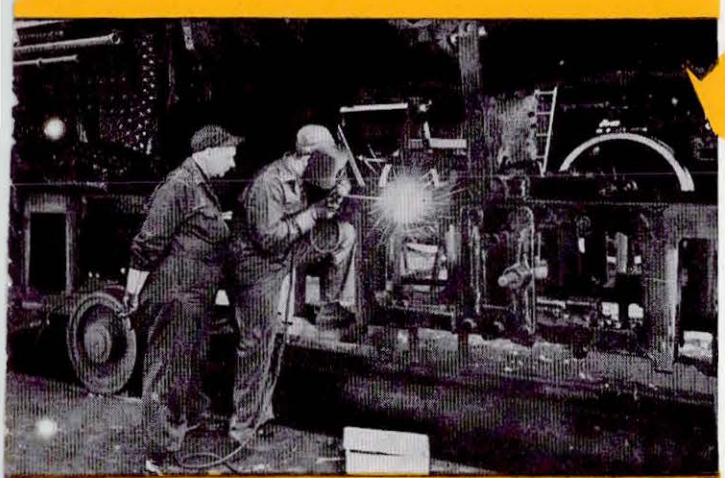


17 WAREHOUSES. Westinghouse has established 17 warehouses where you can obtain electrical renewal parts quickly. Stocks on hand include those parts normally subjected to wear or burning such as contact tips, shunts, arc chutes, operating coils, armature and field coils, bearings, etc. Be sure your own stock of renewal parts is adequate to meet emergencies. Before it runs low, order direct from our local office.



34 REPAIR PLANTS. Westinghouse has established 34 district manufacturing and repair plants. Each of these plants is equipped to repair, remodel or recondition your electrical apparatus. This includes rewinding motors, generators and transformers; replacing or building up worn parts such as bearings, commutators and current collectors.

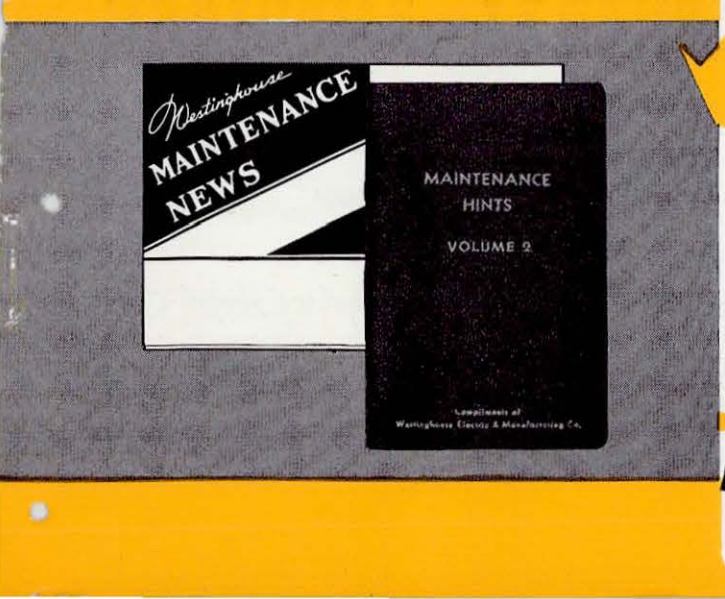
More than 4,000 employes are now serving our customers from these 34 Westinghouse district plants alone. To save time on repair, call our local office.



THE RUSH WELDING JOBS in the shop, yard and on the tracks can be done faster and better with Westinghouse welding equipment. Whether it's bridge repair, rail end hardening, car repair, parts fabrication, or locomotive maintenance, there's a Westinghouse welder to fit the job.

In addition Westinghouse makes a complete line of welding rods, each developed especially for the kind of metal to be welded.

Welding is typical of the many Westinghouse products that will help railroads accomplish their wartime responsibility of moving men and materials—quickly and safely.



SAVE TIME WITH BETTER MAINTENANCE. One of the most important single group of workers you have is your maintenance crew. These men deserve all the help you can give them.

Westinghouse has prepared a valuable book on the care and maintenance of electrical equipment. Pocket-size, it gives helpful hints on the care of motors, bearing lubrication and maintenance, tips on general inspection and many other valuable suggestions on how to keep your electrical equipment on the job. "Maintenance Hints" is free. Each of your maintenance men should have a copy.

When you request Maintenance Hints, you will automatically receive Maintenance News, issued periodically to give the latest maintenance information.

J-95079

Westinghouse Electric & Mfg. Co.,
Dept. 7-N, E. Pittsburgh, Pa.

Please send Maintenance Hints, Vol. I and II., and Maintenance News to:

Name_____

Company_____

Address_____

City_____ State_____

Requested by_____ Title_____

If more than one of your maintenance men should have this book, write their names on your letterhead. We'll be glad to send them copies.

Turning blueprints into BATTLESHIPS—

. . . calls for many cars like these!

Before plans can grow into battleships, mountains of materials must be assembled. This is one vital job of the Railroads — America's indispensable form of transportation, in war and in peace.

Many shipbuilding needs can be hauled in ordinary freight cars. But special commodities like bulk oils — acids — paints — caustic soda — travel safest and swiftest in special cars designed and built by General American Transportation Corporation.

The GATX Fleet of over 55,000 special freight cars is on daily active duty from Coast to Coast, delivering urgently needed materials. Our 40 years' teamwork with the U. S. Railroads is continuously helping to speed the production of many essentials of war.

GATX GENERAL AMERICAN

GENERAL AMERICAN TRANSPORTATION

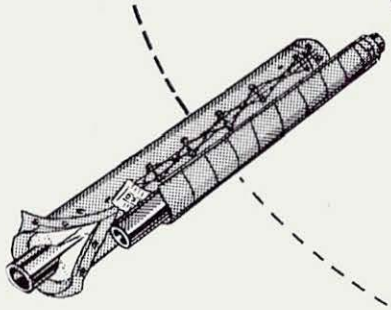
CORPORATION

Chicago

Builders and Suppliers of Railroad Freight Cars

KEEP 'EM ROLLING! Freight cars—particularly tank cars—are vital to Victory. They must be loaded, unloaded, kept moving with all possible speed. Delay may cost lives!

EFFICIENCY IN INSULATION: **Insutape & Wovenstone**



UNARCO

Insutape and Wovenstone steam pipe insulation are providing added insulating efficiencies and economies for Roads throughout the country. It will not shake down, even under the most severe vibration—remains firm and snug against the pipe... has a water repellent filler that keeps the insulating medium from matting down. This added efficiency—plus the ease of applying and reapplying Insutape and Wovenstone—is keeping rolling stock rolling. Higher insulating efficiency, greater ease of application, the economy of reapplication and the elimination of need for maintenance are Unarco's contribution to railroadings' vital part in the service of the Nation.

UNION ASBESTOS & RUBBER CO.
310 SOUTH MICHIGAN AVE. • CHICAGO, ILL.

Insutape and Wovenstone: CONSERVE THE VITAMINS OF THE RAILROAD. . .THE **B.T.U.**

AMCRECO *Creosoted* PRODUCTS

ARE PROVING THEIR WORTH IN HELPING IN THE VITAL TASK OF KEEPING THE LIFELINE OF SUPPLIES ROLLING TO THE FOUR CORNERS OF THE EARTH

•

AMCRECO

LONG LASTING AND LOW COST, TIES, PILES, POLES AND TIMBER

AMERICAN CREOSOTING COMPANY
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COLONIAL CREOSOTING COMPANY INCORPORATED

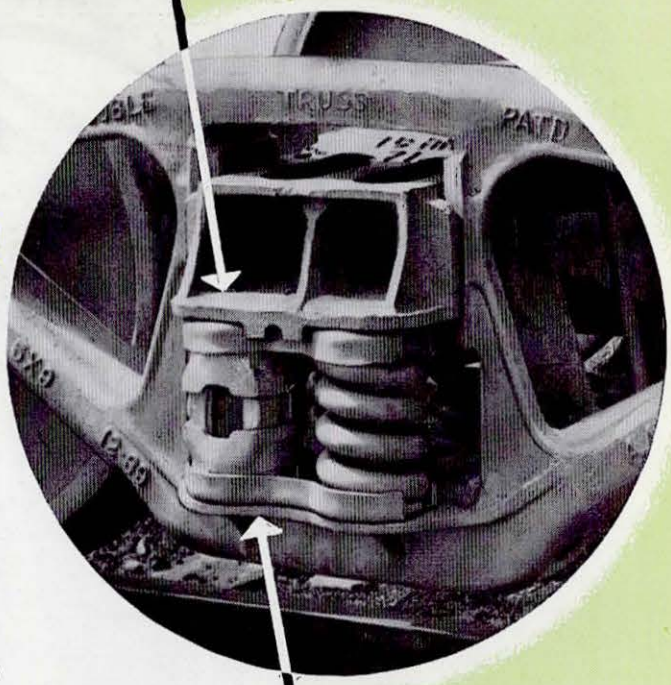
AMCRECO LOWRY PROCESS CREOSOTED WOOD

GEORGIA CREOSOTING COMPANY INCORPORATED

ADDRESS INQUIRIES TO CHICAGO, ILL., OR LOUISVILLE, KY.

QUICKLY INSPECTED

... all parts are visible



Simplex Snubbers can be easily and quickly inspected without removing them from the car.

Lowers Maintenance
Reduces Claims

SIMPLEX

THE *LONG-LIVED*

SNUBBER

AMERICAN STEEL FOUNDRIES

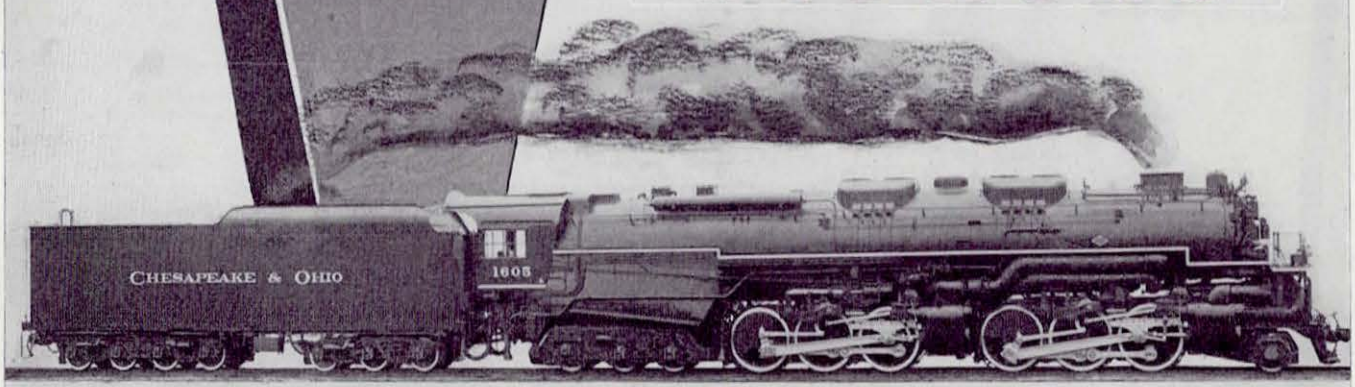
THESE FINE NEW CHESAPEAKE & OHIO LOCOMOTIVES IN FREIGHT AND PASSENGER SERVICE

Pulling FOR VICTORY

FOR SUSTAINED HIGHER BOILER HORSE-POWER THEY ARE EQUIPPED WITH

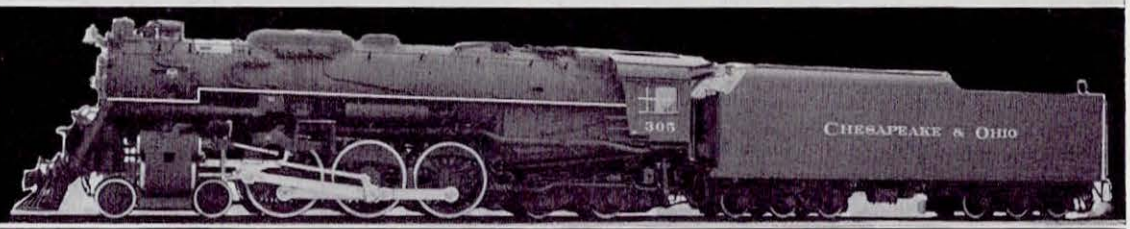
NICHOLSON THERMIC

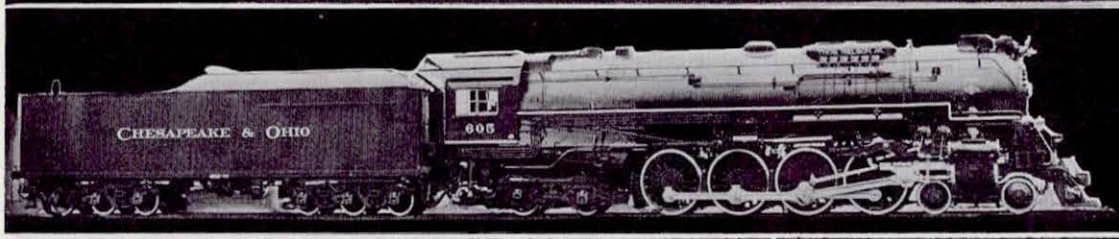
SYPHONS



C & O "ALLEGHENY"—THE FIRST DESIGN OF THE 2-6-6-6 WHEEL ARRANGEMENT, AND THE HEAVIEST FOUR CYLINDER SIX-COUPLED ARTICULATED LOCOMOTIVE BUILT TO DATE.
SYPHONS ADD 27% TO FIREBOX HEATING SURFACE. 10 LOCOMOTIVES RECENTLY DELIVERED, 10 MORE ON ORDER.

SYPHONS ADD 32% TO FIREBOX HEATING SURFACE. 8 LOCOMOTIVES RECENTLY DELIVERED.





SYPHONS ADD 26% TO FIREBOX HEATING SURFACE. 2 LOCOMOTIVES RECENTLY DELIVERED.

LOCOMOTIVE FIREBOX COMPANY

NEW YORK CHICAGO MONTREAL

It's *OUR* war now. It's up to *US*. And "us" doesn't mean only the young men in the Army, on the ships, in the air. "Us" means *"us"*—not to be confused with "they" or "them," meaning somebody else.

For every one of *them* now in action or in training, there are ten or more of *us* who have the duty and the responsibility of providing the guns, tanks, ships, planes, the astronomical quantities of other material and supplies upon which the winning of this kind of war depends.

It's a *war of production.* That's clear. It's *a war of movement.* That's clear too, in the military sense. But to us who are especially concerned with the nation's traffic, "war of movement" has a profoundly special meaning. Untold millions of dollars, tons of materials and man-hours of human time go into America's production. But it takes one more vital thing to make that production worth anything. It takes *movement—transportation!*

Transportation of the character and of the capacity that is essential now and for the future is a job for the carriers, particularly rail carriers, AND the shippers. They are partners in a Herculean task—joined by bonds of an awful co-responsibility to enable America's production to move, work, fight.

Together they have already left former standards and old goals far behind. But this isn't enough. Transportation has to do more—much more—to keep apace and ahead of our war production, now just hitting its stride.

There's the challenge. It is being met, and will continue to be met by shippers and railroads working together — *making every freight car do more work every day.*

NATIONAL ASSOCIATION OF SHIPPERS ADVISORY BOARDS

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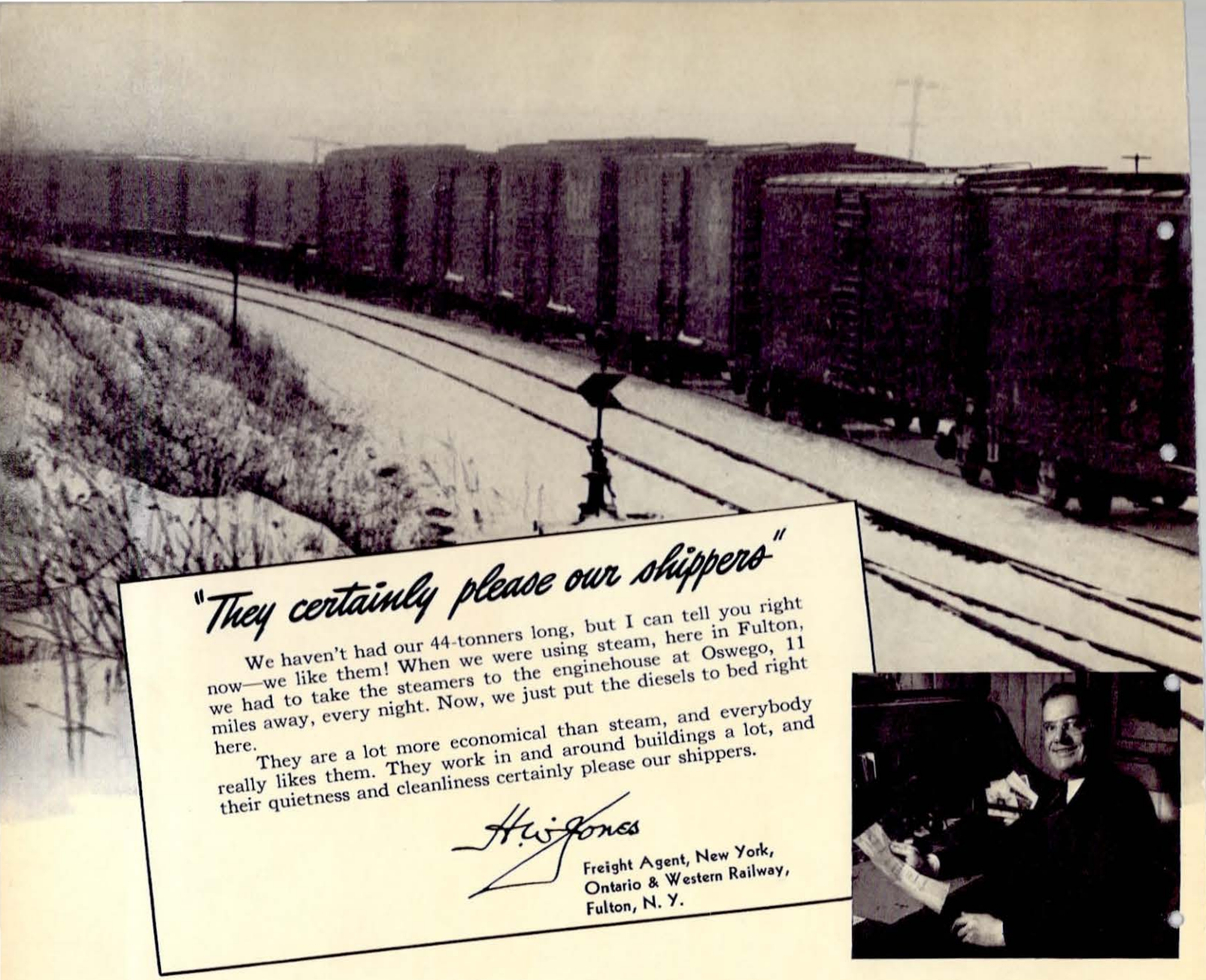

"They certainly please our shippers"

We haven't had our 44-tonners long, but I can tell you right now—we like them! When we were using steam, here in Fulton, we had to take the steamers to the enginehouse at Oswego, 11 miles away, every night. Now, we just put the diesels to bed right here.

They are a lot more economical than steam, and everybody really likes them. They work in and around buildings a lot, and their quietness and cleanliness certainly please our shippers.

H. W. Jones

Freight Agent, New York,
Ontario & Western Railway,
Fulton, N. Y.

44 TONS PACKED WITH PULLING POWER

HOW IT IS BUILT

Today, when every second counts, this diesel-electric's sturdy quality counts more than ever. These features give it round-the-clock stamina and protect its performance:

ALL-WELDED CAB, UNDERFRAME, AND TRUCKS—pound for pound, G-E welding technique gives stronger parts than any other construction.

FOUR HEAVY-DUTY, HIGH-CAPACITY TRANSITION MOTORS—axle-mounted and cushioned from shock for smoothness and long life.

FULL BATTERY CHARGING—at all speeds.

LOAD METERS—one for each engine, give your engineer a constant check on locomotive loads, enabling him to pull more tonnage and increase his operating efficiency.

STEPS AT ALL FOUR CORNERS OF THE LOCOMOTIVE—for greater safety and convenience.

WHAT IT WILL DO

Equipped with two 190-hp, 1000-rpm, diesel engines, the G-E 44-ton diesel-electric meets every I.C.C. requirement for locomotives in road and switching service.

With full power throughout its normal speed range, it not only operates at top efficiency in low-speed switching work, but also performs admirably in road work at speeds up to 35 mph.

Its design places emphasis on operator efficiency. The steeple cab and wide windows give him excellent visibility in all directions, controls are grouped conveniently, the inclined instrument panel is easy to read, and full cab insulation keeps him comfortable in any weather.

GENERAL ELECTRIC

121-32-9040

It's *OUR* war now. It's up to *US*. And "us" doesn't mean only the young men in the Army, on the ships, in the air. "Us" means *"us"*—not to be confused with "they" or "them," meaning somebody else.

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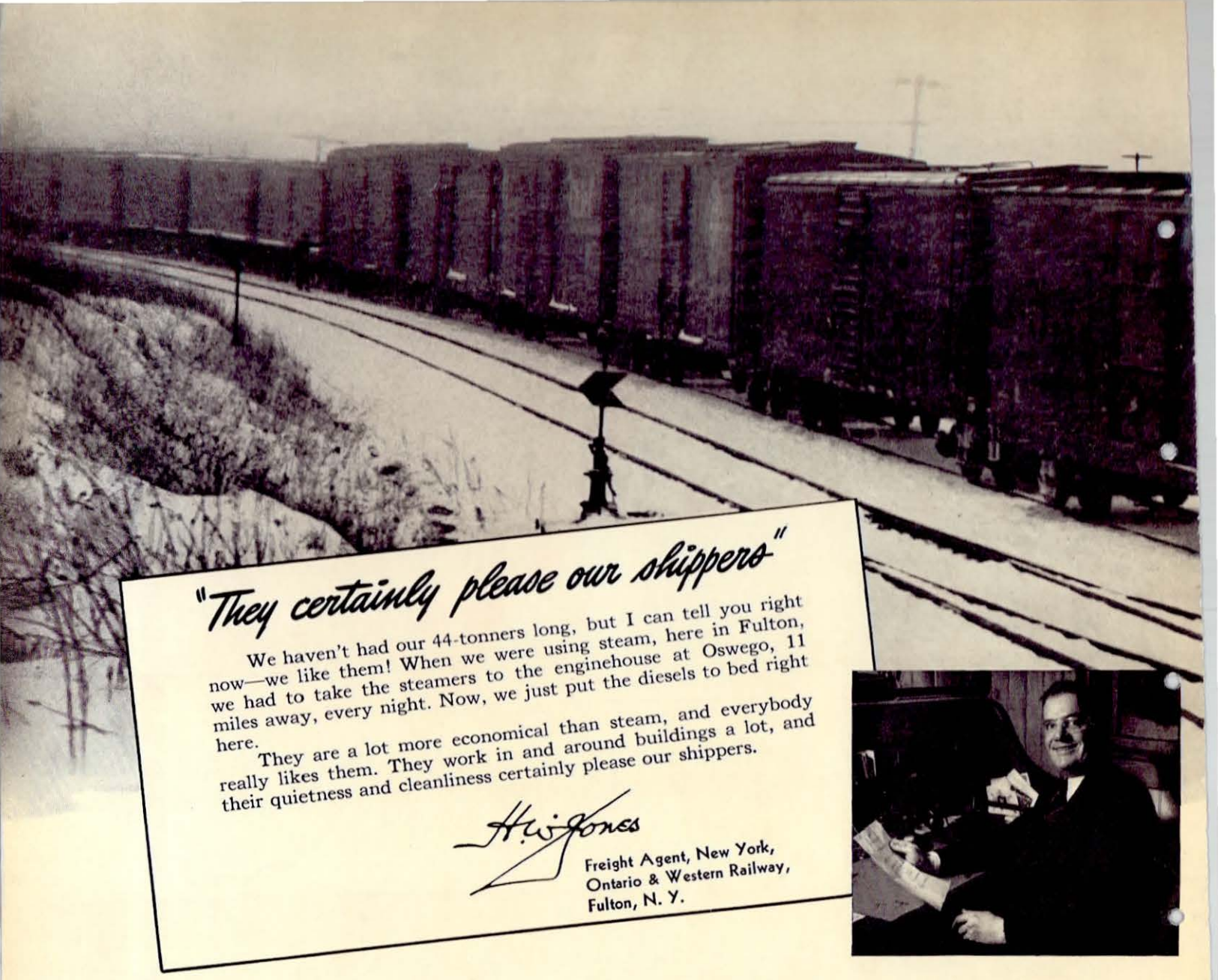

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GENERAL ELECTRIC

121-22-9040

As quiet and clean as the snow they ignore, five G-E 44-ton diesel-electrics are helping the New York, Ontario & Western Railway step up its war-time service to shippers

After its day's work... give it a night's work too..EVERY NIGHT!

1 G-E 44-tonner can release 2 steamers for other service

THIS G-E diesel-electric gives you 44 tons of compact, sturdy power. It is available for service as much as 98 per cent of the time, and has the versatility to make that availability ***100 per cent usable.*** Equally adaptable to yard and road service, you can put it to work on an all-purpose job: switching, accumulating trains, and hauling these trains on the road.

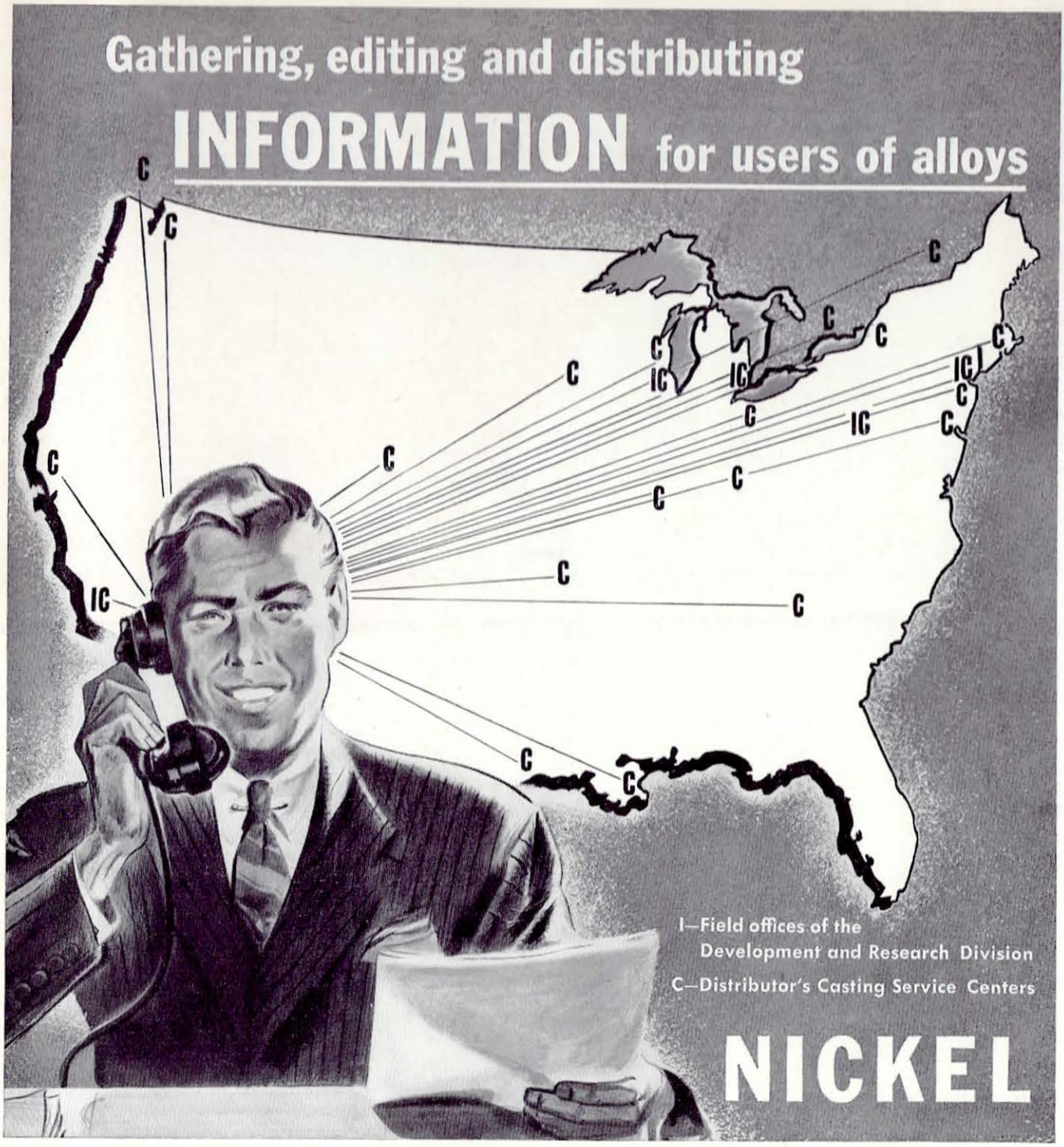
The fact that it can cut fuel costs 30 per cent over replaced steam equipment is important any time. But right now—when every resource is vital—its ability to release that much fuel for other needs is a doubly welcome contribution to victory.

The same goes for its ability to release two steam locomotives for other service. Requiring but little attention and maintenance, it can be kept working steadily, and you can put your maintenance men to work on other equipment awaiting repair.

Your G-E representative can give you figures—in terms of your own road—on the savings in fuel and manpower, and the better utilization of motive power, that this diesel-electric can produce. Ask him for a survey. *General Electric, Schenectady, N. Y.*

FOR HEAVIER SERVICE
switch to Alco-G.E. switchers

General Electric and its employees are proud of the Navy award of Excellence made to its Erie Works for the manufacture of naval ordnance


Gathering, editing and distributing
INFORMATION for users of alloys
I—Field offices of the Development and Research Division
C—Distributor's Casting Service Centers
NICKEL

To aid users of Nickel alloys, thirty service centers are maintained in industrial areas. From these strategically located key points, our field representatives are on call to advise American industry about the selection, fabrication and uses of ferrous and non-ferrous materials. Assistance is also given on problems arising from the temporary lack of Nickel.

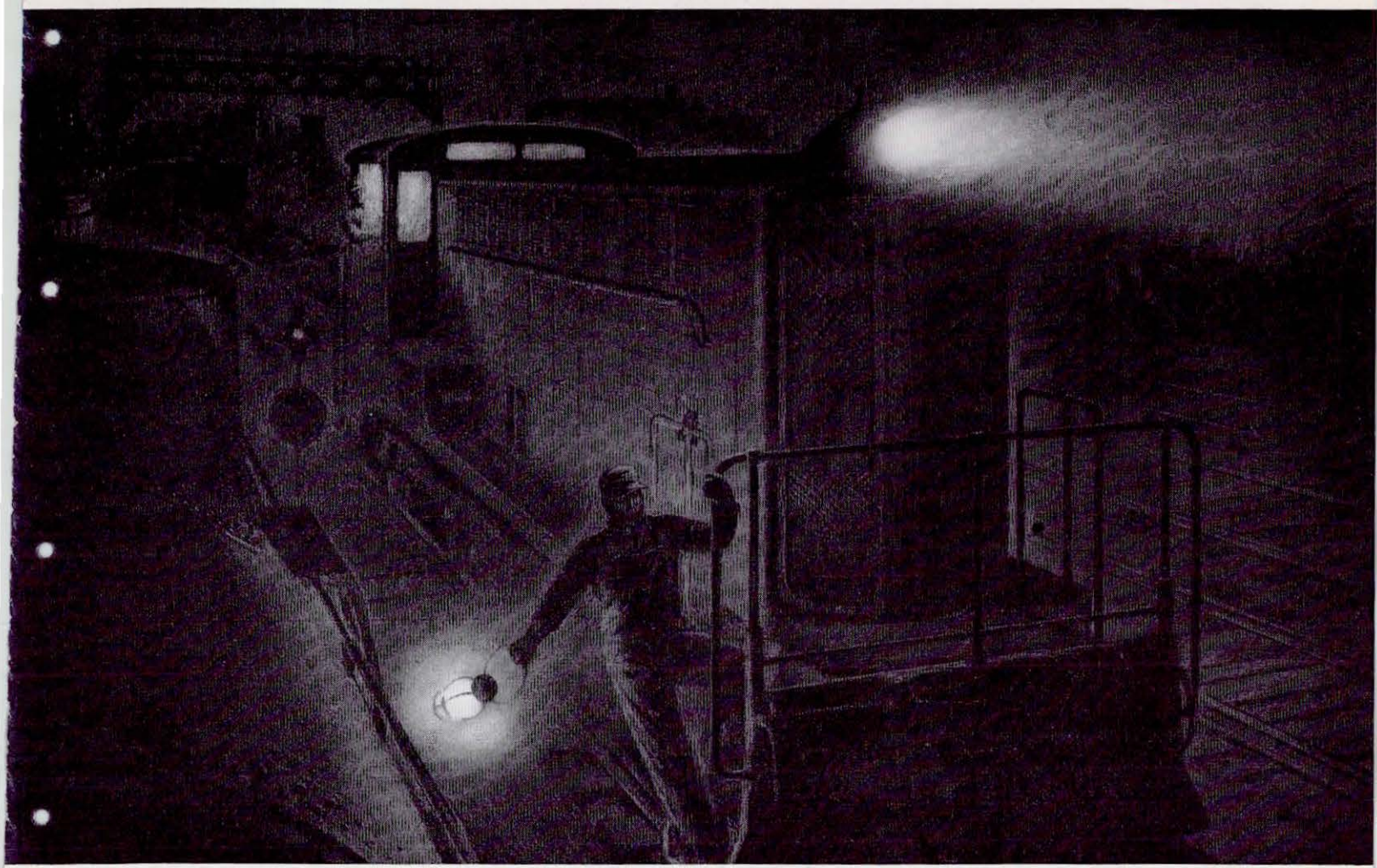
Through the years, research, field studies and user experience have all contributed to a fund of practical, time-proved information. Many of these data have been compiled in convenient printed form, useful both to experienced men handling new materials or performing unfamiliar operations . . . and to the many new employees.

Now . . . when minutes and materials are so vital . . . make full use of this metal-working experience. Send for a check list of helpful printed pieces on the selection, treatment, fabrication and use of Nickel alloys, or send your specific questions to:

THE INTERNATIONAL NICKEL COMPANY, INC. 67 WALL STREET NEW YORK, N. Y.

Reduce Stand-by Losses with Baldwin Diesel-Electrics

handling your switching



With Baldwin Diesel-electric switching locomotives in your yards you can eliminate losses due to time out for washing boilers, cleaning fires and frequent fueling.

Correct design, rugged construction, and accessibility for quick easy inspection and maintenance, insure the high availability of Baldwin 1000-horsepower and 660-horsepower locomotives.

Back of every Baldwin Diesel-electric is more than a century of locomotive-building experience. Baldwin-built De La Vergne diesel engines embody more than 45 years of oil engine experience. The Westinghouse electrical transmission system bears the stamp of an organization that has been building equipment for railroad service over a period of more than 40 years.

Baldwin Diesel-electrics are demonstrating their dependability and economy on the lines of 36 railroads from coast to coast.

THE BALDWIN LOCOMOTIVE WORKS

BLW THE BALDWIN GROUP

Philadelphia

DURYEA *Cushion* UNDERFRAME...

meets today's call for SHOCKPROOF SHIPPING

"LAST YEAR we loaded 30 to 35 Duryea-equipped cars, and every one came through 100% safe," writes a prominent shipper. "We continually look for such cars and load them, if possible, to give their owner a road haul."

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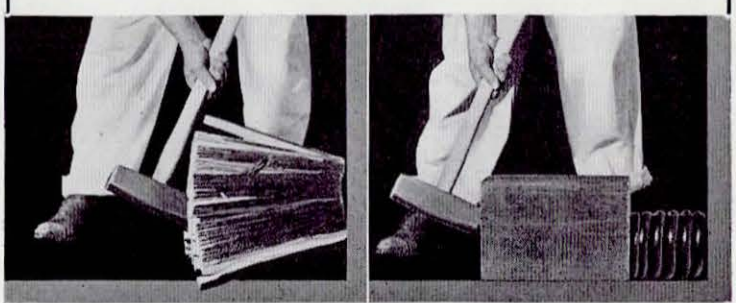
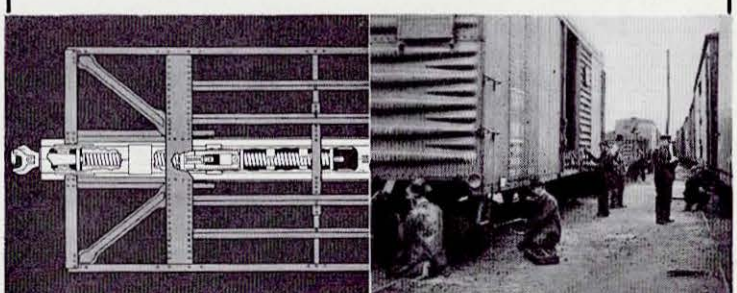


HOW DURYEA CUSHIONING lessens shock. Left: Block of wood (sill) against wall will crack when hit with sledge. Right: With spring allowing block (sill) to slide, hardest blows fail to cause damage.



PHANTOM VIEW shows construction of Duryea Underframe, with floating center sills and giant cushioning springs. Duryea Cushion Gears always function at full efficiency.

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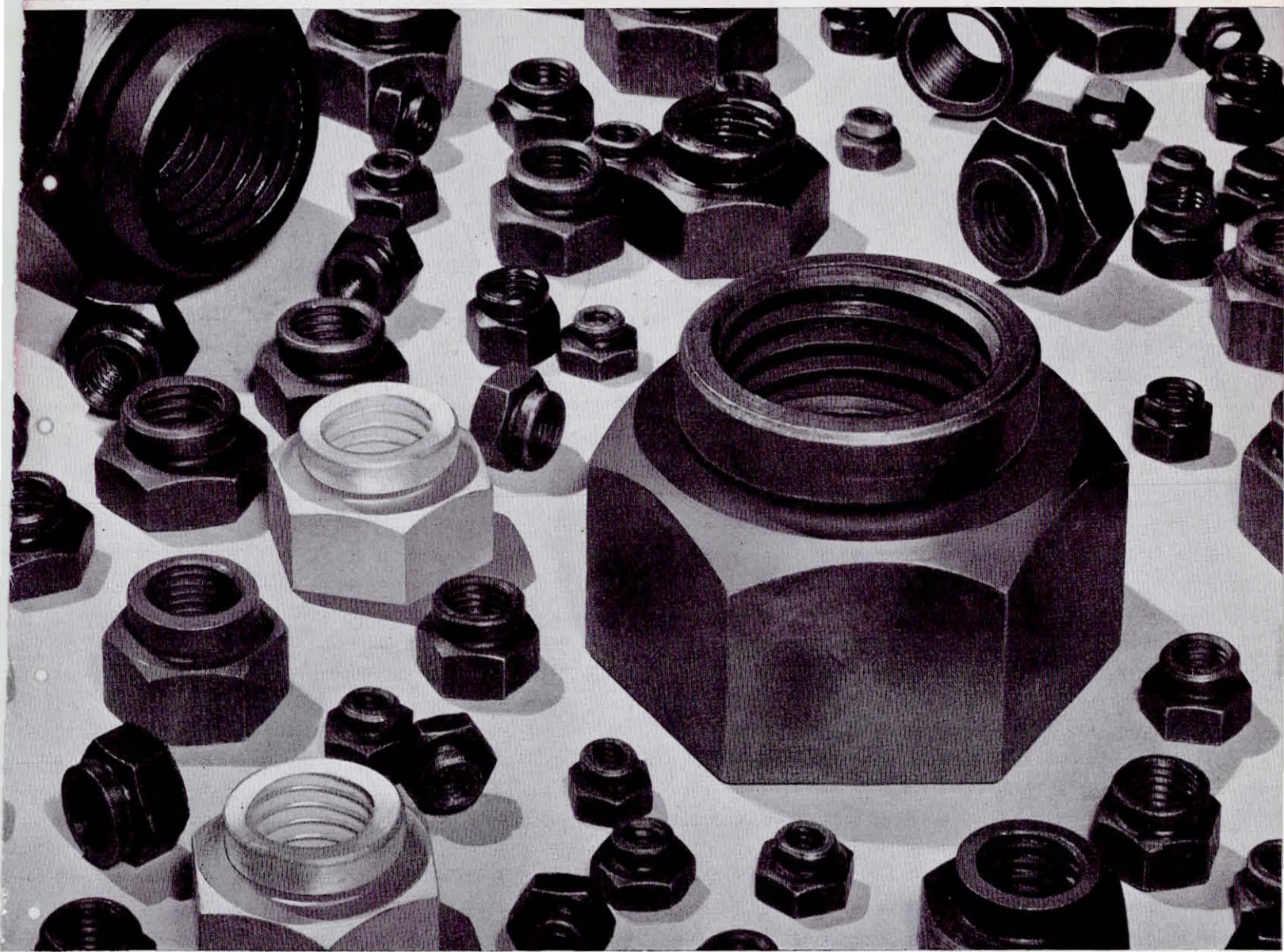

*U. S. Patent No. 2255286

● Think hard. Try to think of an application where it's hard to keep a nut on a bolt. Such as on shaker screens for sieving coal. Or on pneumatic hammers. Or on big trucks pounding over steep mountain grades. Or on Army Scout cars. Or on gun mounts. Or on cement mixers. Lamson Lock Nuts* have already made good on all these applications. And there are many others where the tests in service make laboratory tests look like we're holding out on you. Lamson Lock Nuts* are designed for where the going is hard. Locking action is obtained by deformation of the threaded collar, integral with the nut proper, heat treated to obtain a spring action. When threaded onto a bolt, the bolt thread forces the deformed thread of the collar of the nut back into its original circular shape—*almost*—and that slight deformation remaining is what locks the nut on the bolt, to stay until removed with a wrench. When backed off with a wrench, the deformation is again apparent, and of course the nut may be used over again without losing its locking action on the bolt. For any assembly you have where such security is desirable, ask for samples for your tests — and make the tests as tough as you can.

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Vol. 112 April 18, 1942 No. 16

In This Issue

Railroads Tackle Problem of Air-Raid Precautions . . . . . Page 782

The results of a survey made along the Atlantic Seaboard, in connection with the necessity for cooperation in blackouts, and in making plans for dealing with possible bomb damage, are set forth in this article.

Morse Raps Transportation Association 792

This article contains excerpts from the statement of Wayne L. Morse criticizing the Transportation Association of America for its stand with regard to the handling of the T. P. & W. case; and the reply of J. A. Gordan, president of the association, to this criticism.

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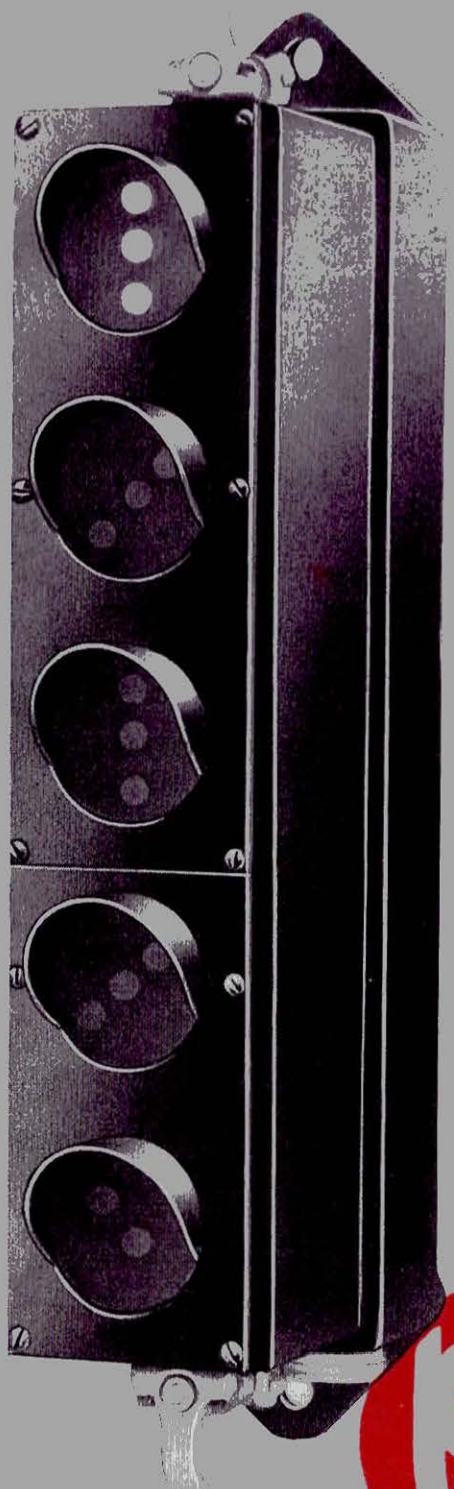
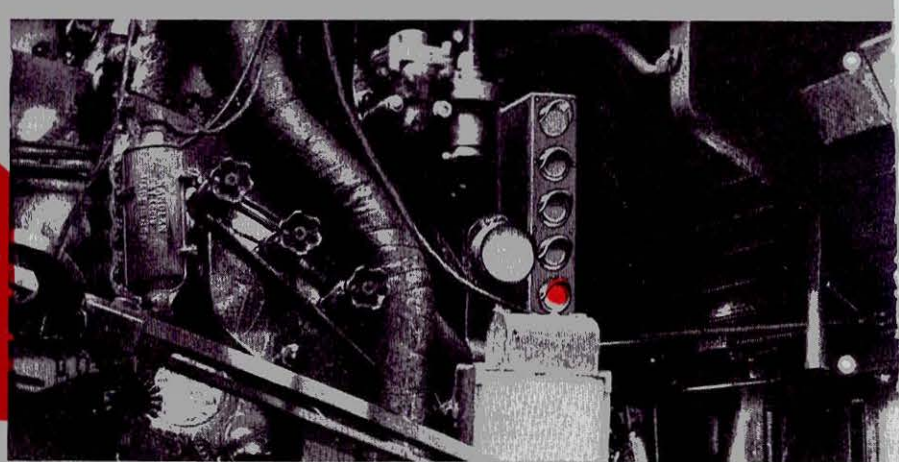
THE *Signal* THAT RIDES WITH THE CREW



CONSTANTLY visible to the engineman and fireman, a signal in the locomotive cab continuously displays information needed by the crew to operate a train to the best possible advantage. Cab signals will immediately indicate a condition requiring restrictive action and of equal importance to fast transportation, will immediately show when a restrictive condition has been passed or removed so that authorized speed may be resumed.

The cab signal most effectively performs the purpose of modern signaling . . . to make it possible to handle trains safely with a minimum of delay under all weather conditions.



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The Week at a Glance

THE WPB COMIC OPERA: Act I, Scene I of this "war of transportation" opened in 1940 with a prominent New Dealer proclaiming that the railroads ought to buy 500,000 freight cars. Now, almost two years later and with the war hot upon us, the War Production Board puts the railroads down for 63,000 cars. Even less than a year ago the WPB's predecessor, OPM, was putting out figures which called for the construction of 370,000 cars. This amazing statistical travesty is reviewed in the leading editorial herein. No middle-of-the-road for these wonder-boys. They blow very hot or very cold.

●

WHAT *ARE* RR NEEDS?: In January the railroads submitted to WPB a request for the allocation of enough steel to build 122,000 freight cars this year. By the end of March the railroads had actually *ordered* 94,500 freight cars. Carrier estimates of their equipment requirements are never sensational—always realistic. The editorial herein concludes that the WPB is short-changing the carriers about 59,000 cars.

●

JOE COULD TELL THEM: A *"war of transportation,"* but with no transportation man in on its councils—such is one of the paradoxes of this mismanaged war, and one of the primary reasons why it *is* mismanaged. The leading editorial herein again raises the unanswerable question—Why isn't Mr. Eastman made a member of WPB?

●

UNION "CO-OPERATION": Donald Nelson has been advocating union-management collaboration in war industries in the interest of greater efficiency—and his proposal has been suspected by some as paralleling the C.I.O. project for "industry committees," which would put management in a minority. Actually, as an editorial herein points out, the union-management "co-operative" plan, in effect on the B. & O. and C. N. R. for 18 years, seems to be pretty close to what Mr. Nelson has in mind. The editorial proceeds to outline the achievements of this plan on the B. & O., where both management and unions—especially in the shops—appear to be highly pleased with it.

●

METAMORPHOSED MORSE: Dean Wayne Morse is now speaking a different language from the even reason which he expounded as a "fact finder" last fall. Last week we reported a casuistic speech of his (as a so-called "public" member of the War Labor Board) in which he attempted to defend that board's operation on a "justice by ear" basis—instead of by the traditional juristic method of settling cases in accordance with recognized principles. Jurisprudence without principles breeds contention instead of allaying it, because it tempts the fellow with a bad case to prosecute it.

●

THE NOT-SO-GLOOMY DEAN: Having demonstrated his skill at Labor Board apologetics, the good dean now advances to second degree New Dealism, by displaying mastery of "scoffs and scorns and contumelious taunts"—choosing as his victim the Transportation Association. The association issued a circular summarizing the T. P. & W. case and suggesting that Mr. McNear was accorded something less than justice—in that the Railway Labor Act did not require him to arbitrate, that they did not give him a "fact finding" board and that the T. P. & W. wasn't necessary to the war anyhow. This brought on Professor Morse's blast, as reported elsewhere herein. By preferring McNear's case to the high-handed position of the War Labor Board, the association has its patriotism called into question. It is easy to foresee a brilliant political future for Dean Morse—unioneering casuistry and a scolding tongue being esteemed as highly as they are.

●

AIR RAID PRECAUTIONS: The railroad aspects of the problem of air raid protection are outlined in an illustrated article herein. It is pointed out that repair of damage presents little that is novel—because the carriers are familiar with emergency work of this kind from their experience in dealing with floods and wrecks. The A.A.R. has got a committee working on the black-out problem, which is quite something—and, in the meantime, some of the roads have gone at it independently with results described in our account as "spotty." A few carriers have developed complete emergency arrangements—black-out, fire-fighting, first-aid. What these roads have done, the experience of the British railways, and where further information may be obtained are some of the points covered in our report.

●

AT LAST, REAL FUEL FACTS!: Fuel conservators have long been annoyed by the unsatisfactory comparisons of fuel efficiency, made possible by the figures heretofore published—which reduced all classes of fuel to a coal equivalent, but without a uniform formula for the transition. This condition has now been remedied through issuance by the Bureau of Railway Economics, of tables which show the actual fuel used by locomotives in yard, freight and passenger service. These figures are published in this issue, with a brief commentary by Fuel Conservation Superintendent Ramsey of the B. & O.

●

LABOR SHORTAGE COMING: The railroads, it looks like, are going to have plenty of trouble getting the help they need. There was a meeting to talk over the situation at the ODT this week, which is reported in the news pages herein. A survey by Otto Beyer reveals that skilled mechanical department help is already a scarce article—and operators, dispatchers and switchmen are going to be shy soon. The draft doesn't want to defer railroad men, except long enough to train replacements. The railroads are advised to begin taking in learners—especially women and older men; and to try to get men with railroad experience, who are retired or are engaged in other occupations, back to railroading again.

HARRISON ON ORDER NO. 1: George Harrison has come out with a blast against ODT General Order No. 1, setting a minimum weight on l.c.l. carloadings, and requiring the railroads to divert lighter loads to trucks. We expressed misgivings about this order last week—but not for the reasons advanced by Mr. Harrison. He objects to the order, apparently, for fear it may promote efficiency in merchandise handling and abolish unnecessary jobs. Our doubts about it stemmed from advice by shippers and carriers that the order, by its rigidity, might promote inefficiency rather than remove it.

●

EQUIPMENT INQUEST: There was to be a meeting of the Railroad Industry Advisory Committee with Andy Stevenson of the WPB in Washington on April 16 to consider detailed arrangements regarding who is going to get what of the meager equipment dole the WPB medicine men have allocated to the railroads for the balance of the year. In the "Equipment and Supplies" department elsewhere herein, our Washington editor presents a summary of the authoritative figures. Mr. Eastman is dissatisfied with the allocation (as who isn't, but Mr. Eastman makes his opinion public). There is yet no evidence to indicate that the WPB doesn't still think it is smarter than anyone else in deciding transportation questions.

●

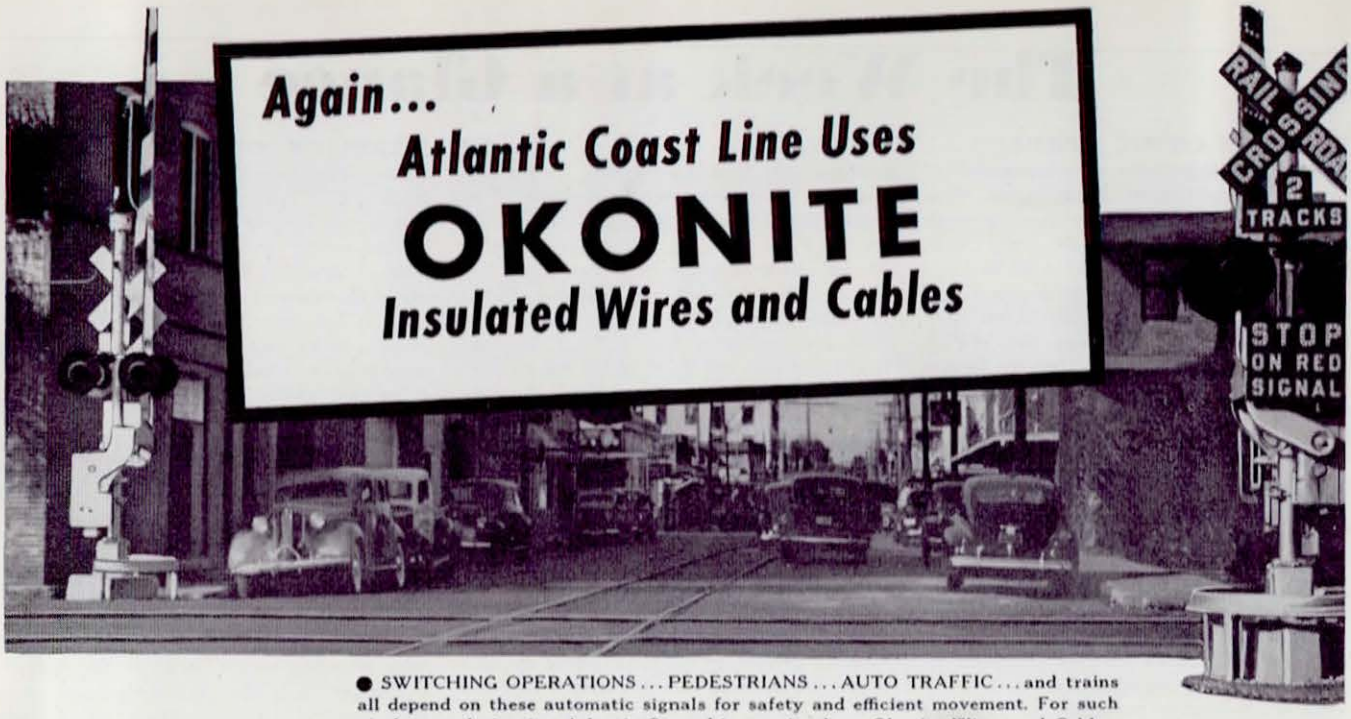
GENERAL EXPORT EMBARGO: All private export traffic—to Atlantic, Pacific and Gulf ports—has been embargoed by the railroads. To ship export freight by rail to any such ports, the shipper will have first to show that ship space will be ready when the freight arrives at port. The embargo is a protective measure, to keep freight from piling up at tidewater. This permit system on private traffic has been in effect for some time at some ports. Now it applies to all. Army, navy and so-called "lend-lease" shipments are exempt.

●

COAL IN TRAINLOADS: The railroads are going to be told to move coal along the Atlantic seaboard in solid trainloads, to keep the cars out of the yards and maximize their transportation output. Such was the advice given out on April 15 by Mr. Eastman. Heavy diversion of coal from seagoing barges to rail has come from U-boat activities in the Atlantic. Sam Bruce, the well-known Koppers Company traffic manager, has joined the ODT to supervise coal handling.

●

OIL TRAFFIC STILL CLIMBS: In the week ended April 4 the railroads moved a daily 525,697 bbl. of petroleum products to the Atlantic seaboard—after being smeared by Mr. Ickes last fall as mendacious lobbyists when they ventured to estimate that they could handle 200,000 bbl. daily without trouble—*only about 40 per cent of what they are actually handling.* On one road alone, the New York Central, they are moving a 65-car train of oil eastward every 90 minutes—24 hours a day, 7 days a week.



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RAILWAY AGE

W.P.B. Decrees a Transportation Shortage

The story of the government's dealings with transportation since its defense program was begun in midsummer 1940 reads like a comic opera. If those highest in authority have shown as much ignorance and incompetence regarding other matters, it is no wonder that there has been so much complaint, even by themselves, of so little accomplished. The story begins with an estimate made to the President by a prominent New Dealer in 1940 that the railroads should immediately order 500,000 freight cars. The latest episode in it is the recent decision by the War Production Board to provide enough materials for the building of 1,226 locomotives and only 63,000 freight cars in 1942.

Carriers Criticized as Too Conservative

In the spring of 1940 the Association of American Railroads adopted a program calling for 100,000 new freight cars for handling 1941 traffic. In May, 1941, it adopted a further program calling for a net increase in freight cars of 120,000 between October 1, 1941, and October 1, 1942, and a further net increase of 150,000 between October 1, 1942, and October 1 1943. This program from its inception in 1940 was criticized by New Deal spokesmen as inadequate and showing lack of foresight. A memorandum prepared in the Office of Production Management and quoted in the press in the summer of 1941 estimated an increase in carloadings in 1941 of 27 per cent and an average shortage of not less than 80,000, and probably 130,000 freight cars throughout October. It also estimated that "to meet peak requirements in the fall of 1942 an unprecedented carbuilding program of a minimum of 370,000 freight cars will be required." The actual increase in carloadings last year was only 16.3 per cent. In May-September, inclusive, because of inability to get materials, there were delivered to the railroads only one-half the cars they and the builders had scheduled for construction. And yet in October, because of efficient operation, there was an average surplus of more than 40,000 cars.

Because of continued failure to get enough materials for new cars and unavoidable retirements of old cars, the number of railroad-owned cars increased from 1,616,004 on May 1, 1941, to only 1,679,214 on March 15, 1942, or 63,210. And yet, after all the railroads' large estimates of their needs, and the much larger estimates of government employees, the War Production Board on April 8 announced that materials will be allocated during the remainder of 1942 for the production, in addition to the 45,000 already built, of only 18,000 freight cars. For the last eight months of the year this would be at a rate of only 2,250 a month—less than the rate at which necessary retirements of old freight cars recently have been occurring. In other words, in the face of an increase in carloadings which in the first quarter of 1942 averaged 9 per cent, and which during the entire year probably will be larger, the War Production Board has in effect, decreed an actual reduction in the number of freight cars during the rest of this year. And this in complete disregard of the former huge estimates of railway needs that emanated from SPAB and OPM, the predecessors of WPB, and of WPB's own estimates that there will be a further large increase in demands for transportation in 1943.

There has been abundant evidence of ignorance, inconsistency and incompetence in New Deal quarters for nine years; but if there has been any more conclusive evidence, we have not heard of it.

Logic as Practiced by W. P. B. "Experts"

The reasoning of the War Production Board regarding materials and services necessary for the prosecution of the war appears to be somewhat as follows: Planes and guns are needed; let us produce all we can. Ocean transportation is needed; let us produce all the ships we can. Inland transportation is needed; let us provide as little as we can. Our "experts" formerly said the railroads were not planning anywhere near largely

enough. But our "experts" were proved wrong and the railroads' experts right. Therefore, our "experts" must be right now and the railroads' experts wrong in telling us what the railroads will need in future. On such reasoning apparently are based New Deal policies in war as well as in peace.

One cause of the WPB approach to inland transportation is that there is no member of the board who knows a thing about transportation. There has been no shortage of it for twenty years, and the country has a whole generation of business executives who (excepting their traffic men) have had little cause to do any thinking about the supply of it. The shortage of transportation predicted for last year never occurred. The shortage of guns and ships is here—and the clamor for more of them is loud and continuous. With no experience to make them realize that adequate railroad transportation last year did not come automatically, that it never comes automatically like the air they breathe, the members of WPB pass lightly over the real danger of it which is looming, and which they alone are creating. In Washington a couple of weeks ago a high government official observed that scarce materials cannot be allocated in the national interest unless every necessary user has a spokesman with a voice loud enough to be heard. "Two pigs under a gate make more noise than one," he said. "Some non-essential users have their two pigs hollering for them; some essential users haven't any pigs at all—and they don't get the materials."

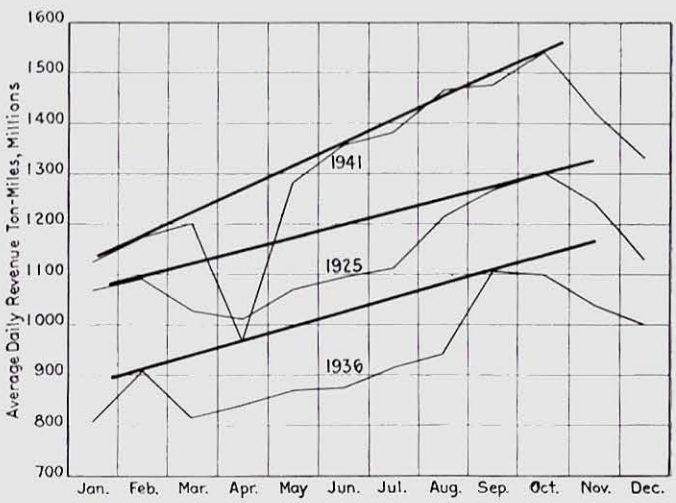
A "War of Transportation," Without Transportation Men in Its Councils

Over and over again, the American people have been truly told that this is a **war of transportation.** The board allocating supplies consists of a former mail order company executive, the former editor of a farm paper, two politicians, a labor leader, a newspaper publisher, a college professor, an industrial production executive and a social welfare worker. Carrying on a "war of transportation" with such a personnel should be sufficient explanation of the board's inconsistent and incompetent dealing with transportation. The remedy lies with the President, and is, to appoint an informed transportation man to the board. That man obviously is Joseph B. Eastman, who, by the President's appointment as Director of Defense Transportation, has responsibility for seeing that enough transportation is supplied. This paper weeks ago urged Mr. Eastman's appointment to the Board. It is typical of the disorganization and mismanagement of our war effort that there is no member of the Board who can present in its meetings the needs of transportation before decisions are reached which, by restricting transportation, may restrict every form of civilian and war production.

There is, in addition, a misconception in Washington which doubtless helps explain the increasing skimping of supplies for the railroads. This is the conviction of many government officials that **shortages of things are good discipline for the common people, and improve their morale.** That conviction may or may not be true of commodities in general, but it certainly is dangerous to apply it to railroad transportation. When railroad transportation is inadequate, it creates shortages of everything else, including materials of war. If the government were not cutting down the production of all goods to the bare needs of the people, perhaps some transportation shortage would not do much damage. But if production is first trimmed down to bare essentials, and then the transportation machine cannot move enough war materials and of these essentials to consumers, there will develop shortages that will not only impair the war effort, but undermine public morale, rather than improve it.

Why Should They Not Heed Mr. Eastman?

Speaking in Philadelphia on April 9—as briefly reported in last week's *Railway Age*—Director Eastman of the Office of Defense Transportation gave clear evidence that in him the government has an official fully capable of giving it the counsel on transportation problems which it so badly needs, and courageous enough to do so. He knows as well as any other man in the country what demands the war effort is likely to make upon the transportation plant in the coming twelve months—and how much of that burden (because of rubber and shipping shortages) is likely to be shifted from other forms of transportation to the railroads. The recommendations he made to the War Production Board for providing for the needs of the railroads were never revealed publicly. He said at Philadelphia, however, that the program of the WPB for 18,000 freight



Where Surplus Transportation Capacity May Be Found

The light lines chart the average daily revenue ton-miles in three years of rising traffic. The heavy lines laid on the "peaks" portray the capacity of the railroads, as demonstrated by actual performance. The area between the heavy line and the light line below it represents the "valley" of surplus and unused transportation capacity.

cars and 300 locomotives this year—in addition to those already authorized—fell "far short" of his recommendations. It has been credibly reported that he called for the construction of 130,000 freight cars this year—more than twice the number WPB has authorized.

Just how extensive is the deficiency in new freight cars which will be caused by the WPB program? In the railroads' steel requirements for 1942, compiled in January at the request of WPB, provision was made for about 122,000 freight cars. The railroads have never been inclined to overestimate their needs for new equipment. This figure may, therefore, be considered a conservative anticipation of the requirements.

That it was conservative may be concluded from the fact that up to the end of March orders had actually been placed calling for the building this year of 53,400 box cars, 37,500 open top cars and smaller numbers of other types, making a total of about 94,500 freight cars. If these orders themselves be considered as the minimum requirements the WPB plan represents a deficiency of about 31,500 cars. From the railroads' January estimate the deficiency will be 59,000.

Thus, for an approximate tonnage of steel shapes and plates which might amount to from 300,000 to 1,000,000 tons, about one-third as many tons of steel castings and still less of forgings, the WPB is willing to risk the effectiveness of the entire war production program and the morale of the civilian population, in complete disregard of the best judgment of those who know the limitations of our transportation facilities and are charged with the responsibility for their successful functioning.

The Fight Must Go On

What remains for transportation people and shippers to do, who, like Mr. Eastman, realize the folly and incompetence indicated by the niggardly allocations the WPB has made? They must not give up the fight. This decision is not final. It can be changed; and no effort should be spared to get it changed. "Conversations are continuing," Mr. Eastman reported. It lies within the power, and it is the duty, of transportation and shipping interests so to make known the facts regarding the transportation shortage to which the WPB is seeking to condemn the country that they will secure the modification of this stupid order.

Beyond that, it remains—not only for the railroads and shippers, but for the consuming public as well—to make ever-more-efficient use of available transportation facilities. The accompanying chart, showing average daily revenue ton-miles in three years of rising traffic, indicates clearly where a great deal of surplus transportation capacity is to be found. In each year, it will be noted, there were "peaks" of daily performance—one in February and another in September or October. The heavy straight line drawn between these "peaks" of proved railroad capacity, in each of the three years, discloses a great "valley" of unused capacity between winter and fall. By shifting transportation away from the "peaks" (especially the fall peak) and into the "valleys," a large increase in the volume of ton-miles can be produced by the existing transportation plant.

Such a shift did, in fact, occur to some extent last year—that is, traffic was heavier than normal in the summer months. This use of normally-surplus transportation capacity last summer probably resulted largely from supplying the deficiency of coal existing after the coal strike—the effects of which in April are shown so clearly in the chart—rather than from "forward buying" in anticipation of the fall peak. Perishables cannot be stocked in advance. Coal and many other commodities can be. Wise receivers and shippers will use the spring and summer months to lay in all the staples that they can get, where no question of hoarding to the disadvantage of the war effort is involved. Getting them may not be so easy next fall and winter—thanks to the WPB's ignorance and incompetence in deciding on allocations of materials needed for providing adequate railroad service.

Need for Physical Improvements Today

Railroad engineering departments have long been alert to the possibilities of promoting economy in operation by means of improvements in the fixed properties, and during the last decade there has been an increasing trend in this direction, motivated largely by the need for reducing expenses. With the emphasis now on the efficient use of equipment as a weapon in the struggle to handle the growing war traffic, it seems logical to hope that, during the emergency, there will be no tendency toward reduced activity in initiating and prosecuting those types of improvement projects that contribute toward this end. Conceivably, there are many such improvements that can be made, which, by promoting efficient operation, will help materially in relieving the strain that is now being imposed on the railroad plant.

Yard improvements which make possible the more rapid handling and classification of freight cars comprise a case in point. Also, the movement of locomotives through engine terminals can frequently be accelerated to a surprising extent by improvements in layout and the introduction of modern types of engine-servicing facilities. Other types of "bottle necks" also come to mind, such as tunnels with insufficient clearances that prohibit the use of the largest types of power available, and bridges that need strengthening or renewal in order to permit them to carry the heavier locomotives at unrestricted speeds.

These examples constitute only a few of the possibilities and are cited merely for the purpose of illustrating the point. Whether such opportunities exist on indi-

vidual roads is a matter that can be decided only after proper investigation and study. The point is that, if such opportunities are brought to light, vigorous prosecution of the improvements indicated will place the particular road in a better position to handle its share of the burden of war traffic.

The fact that certain of the materials and equipment needed for such improvement may not be easy to obtain should not deter the railroads in their determination to carry out meritorious projects. Experience has shown that the one way to obtain such materials is to make a vigorous case for them at Washington.

Union-Management Co-operation on the B&O

Donald M. Nelson, chairman of the War Production Board, is promoting a plan for increasing the output of industries engaged in war production—which calls for the establishment of a joint committee for this purpose in each plant, composed of representatives of employees and management. In some quarters Mr. Nelson's proposal has been identified with the C. I. O. program for "industry committees", which would admit government officials and labor unions to an equal voice with managers themselves in the control of industry (and which would, of course, by putting managers in a minority, bring an end to the American system of free enterprise). The Nelson project might with greater accuracy be likened to the plan of "union-management co-operation", which has been in effect on the Baltimore & Ohio and Canadian National Railways for many years.

When W. H. Johnston, then president of the International Association of Machinists, and Otto S. Beyer, an engineer in the employ of the union, suggested to Daniel Willard nearly a score of years ago that a "co-operative plan" be set up on the B. & O., he asked them if it was their idea to "sovietize" the railroad. On being assured that it was not, he recognized the possibilities of the plan and authorized its adoption. This was formally accomplished by the signing of a memorandum agreement in February, 1924, by the president of the System Federation of Shop Crafts and the railroad's chief of motive power.

In effect, the plan's achievements may be summarized as follows: It has (1) brought about improvement in conditions and convenience under which employees do their work, (2) elicited thousands of suggestions from employees for improvement in the efficiency of operation, (3) improved employee-management relations, reducing the number of disputes necessitating formal adjudication. One of the results hoped for by the initiators of the plan—greater stabilization of employment—has fallen short of achievement, not because of any fault in the plan, but because during half the life of the project disturbed economic conditions made impossible the attainment of such a goal. On the other hand, in adjusting hours of work, as was necessary during the depression, the management painstakingly sought the co-operation of the labor leaders, so as to arrange the working schedules in as equitable a manner as possible. It is not believed likely that these adjustments could have been made in the interest of as many of the crafts as possible sharing in the available work, had it not been for the excellent management-union understanding, which was one of the collateral effects of the operation of the plan.

As one studies what has been accomplished, and the personalities involved, it becomes quite clear that the success of the plan on the Baltimore & Ohio has not been due to the details of the set-up, or the few rules which were established, but rather to the "attitude of mind" of the participants, which, as Mr. Willard expresses it, was based upon their mutual trust and understanding. Basically, to make such a project succeed, the participators must be "fair" to each other. But how may "fair" be defined? Mr. Willard expresses it thus: "Do to him what I think I would want if I was in his place."

How about the plan itself as applied in a railroad mechanical department (for conditions in that department more closely approximate those in the industries where Mr. Nelson wishes to install his plan)? A plan of this kind can be more effectively applied in the mechanical department, where the forces are concentrated and meetings may be held more conveniently and regularly, than in some other departments of a railroad. Bi-weekly meetings were held at first (monthly meetings now) at all points where maintenance and repair work is done—45 places during the earlier years, 37 now. These meetings are not large; usually there are about half a dozen representatives from the different shop crafts and a like number of representatives of management. Here suggestions for improvements in the interests of safer and more efficient operation and production are presented and discussed. The simplicity of some of these suggestions is such that they can be handled locally and be quickly disposed of; others may require considerable investigation and study, and are frequently referred to the over-all "system committee," meeting quarterly, for consideration.

While, naturally, many of the suggestions coming from employees relate to improvement in working conditions and conveniences, a considerable percentage is concerned with technical improvements which make for greater economy and more efficient production. Grievances are not considered at these meetings; that is quite another matter, dealt with by other union-management negotiations.

What of the results from the 11,673 co-operative meetings that have been held during the past 18 years? Suggestions to the number of 32,160 have been made, of which 27,715 have been adopted; 326 are still under

consideration; 1,205 have been deferred because the expense involved is too great to warrant consideration up to this time; 2,914 have been dropped because they were not considered practical. No attempt has been made to calculate the savings that have resulted from the adoption of these suggestions. It is significant, however, that each one received careful consideration and was adopted upon its merits.

The expense of carrying out the plan has not been great. Minutes of all meetings are recorded and copies are sent to headquarters, where they are carefully noted and checked. The committee meetings are held on company time, but ordinarily they last only a fraction of the day, an average of one and a quarter hours—so that the loss of man-hours from direct production is not large.

There is no question in the minds of the Baltimore & Ohio people as to the favorable concrete results of the plan, and the same is true of the more intangible results. It has helped materially and in an incidental way to inform the entire department—employees and supervisors alike—as to some of the important problems confronting the railroad, and also as to how they can more intelligently assist in educating the public about the place of the railroad in the national economy.

There has been another significant development. Before the plan became effective, much time was given to the consideration of grievances. These have almost entirely disappeared and the meetings designed for that purpose are utilized for more constructive purposes. Only one case has been referred in recent years to the National Railroad Adjustment Board from the B. & O. mechanical department. In a word, although the operation of the plan has now settled down to somewhat of a routine, it has served to develop a strong consciousness of mutual interest and helpfulness, thus removing occasions for friction.

From the Baltimore & Ohio's experience, it would seem of first importance that industrial plants, which seek to apply the proposal of Donald Nelson, should not place too much reliance on written agreements and elaborate rules and regulations. If the proper attitude —recognition of mutuality of interest—on the part of the collaborators exists, elaborate rules will not be needed. If that attitude is absent, such rules cannot make the project succeed. The mechanical details mean comparatively little—the frame of mind everything. It is also not without significance that an interviewer, in apologizing for his searching questions to different B. & O. representatives about the plan, was met more than once with the statement, "Certainly we will tell you. We have no secrets."

Shippers Still Seek to Co-operate

The National Industrial Traffic League met at Cincinnati on Tuesday of this week, to consider transportation conditions, and how the League could best aid in the war effort. Among other actions, it adopted the following resolution:

"Resolved that the National Industrial Traffic League dedicate itself to all-out co-operative effort with other agencies—governmental, transportation, and shipper—to secure maximum utilization of available transportation facilities to the end that our war effort may be advanced with the greatest possible expedition and efficiency, and essential civilian needs be met insofar as possible; also

"That the special committee on emergency transportation matters, heretofore appointed, is hereby clothed with authority to represent and speak in any and all matters that may arise in the Interstate Commerce Commission, in the Office of Defense Transportation, or elsewhere, having to do with the national transportation emergency."

This was no new position for the League. It, along with the shippers' advisory boards, has taken justifiable pride in its co-operative achievement last year, when any real transportation shortage was averted. These shippers have been girding themselves for an all-out effort to avoid any shortage this year. A plan of action has been decided upon and "vigilance committees" have been set up throughout the nation to carry it into effect.

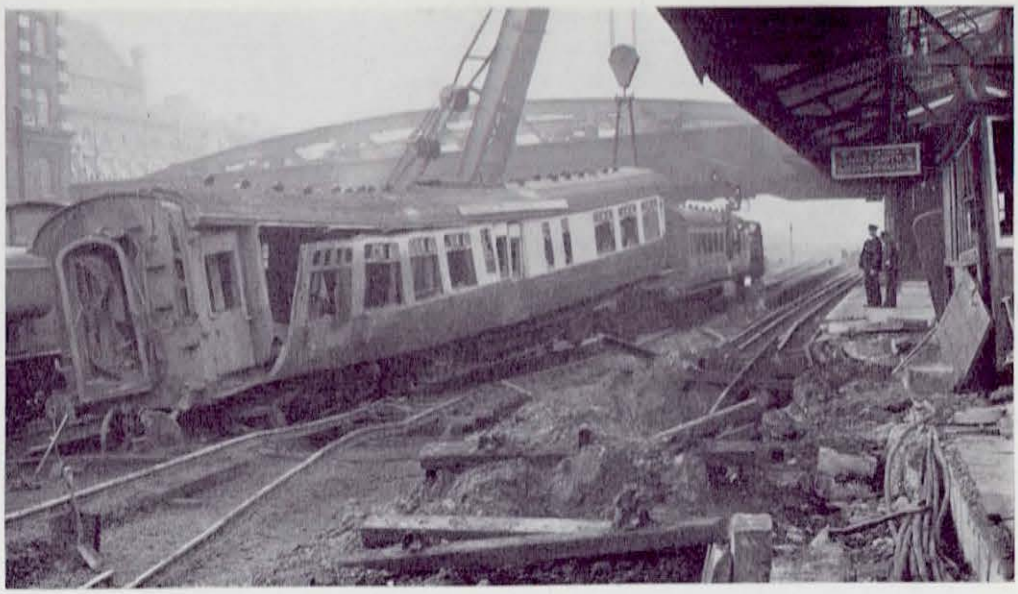
Still, the powers that be in Washington say, in effect, that the co-operative technique is ineffective. Let us, they appear to say, do all the planning and thinking and issue some orders and do the job by regimenting everybody. It matters very little whether our plans and orders are practical or not, or whether we have the information to decide whether they are practical.

Rather, let us issue the orders first and find out later what is wrong with them. This will throw a scare into everybody and that will be good for their psychology. If the shippers and carriers aren't sufficiently patriotic, we can make them that way by penalizing them.

The Cincinnati meeting of the League was an "executive session" and private, but it seemed to at least one participant that the general attitude of those attending was one of discouragement that their offers to co-operate have not been more cordially received. No doubt there have been failures in the co-operative plan, but mightn't it be better to try to reinforce the co-operative spirit than to abandon it?

Co-operation, enforced by voluntary "vigilance committees" still might work better than replacing voluntary enthusiasm with not-altogether-practical orders, and with only a few I. C. C. inspectors to enforce them.

The cooperation has been too splendid and the job too well done for it now to be jeopardized with regimentation. The I. C. C. and O. D. T. should think this over pretty carefully before they take any steps on which they can't back-track.



Railway Property in England Is Protected by Units of the Home Guard

Railroads Tackle Problem of Air-Raid Precautions

Necessity of co-operating in blackouts and of making plans to deal with possible bomb damage and sabotage has raised many questions

AS the gravity of the world situation deepens, the conviction is growing that air raids on our coastal areas, and possibly far inland also, are now a definite possibility, even though they may be confined to "token" or "hit-and-run" actions. Hence, the railroads find themselves confronted with an entirely new problem—that of air-raid precautions. What is the nature of this problem? What action are the railroads taking regarding it? What sources of information on air-raid precautions as applied to railroads are available to them? It was to determine the answers to these and other questions that a survey has been made of the situation along the Atlantic Seaboard, the results of which are presented in this article.

A Two-Fold Problem

The necessity for making preparations to cope with possible air raids poses a problem for the railroads that has two principal components. First, they must be prepared to black-out their facilities during air-raid alerts, and second, preparations must be made for making emergency repairs to tracks and bridges in the event that damage is incurred as a result of bombing attacks. Still another phase of the problem of war-time property protection is that presented by the danger of sabotage, and the railroads are also finding it necessary to make preparations for countering this menace.

The second-named phase of the problem of air-raid precautions—the making of emergency repairs—is probably the least complicated of the two. This is true because the railroads, out of their long experience in dealing with emergencies caused by such happenings as washouts and train wrecks, have developed methods of procedure that need only certain refinements and more or less minor alterations to adapt them for use in repairing bomb damage. The blackout problem, on the other hand, being entirely new to the railroads, has proved much more difficult of solution.

Railroad Co-operation Required

Obviously, the purpose of the blackout is to darken or obscure the lights in any given area on the approach of enemy aircraft. This, of course, requires the co-operation of the railroads, for the lights of railroad trains, signals, stations, shops and other structures, if not darkened or obscured, serve to provide a pattern marking the course of their tracks and indicating the focal points of populated places and industrial centers. Discussing this point, a publication called "'Blackouts", which was prepared by the War Department for the Office of Civilian Defense, says, "Inasmuch as types and routes of transportation may have very definite light patterns in each vital area, special attention must be paid to seeing that blackout provisions are fully co-ordinated with the general plans for the area as a whole. Negligence or other errors in co-operation by one transport agency might be far worse than many mistakes by individuals or even by many small areas."

The purpose of this publication is to set forth the requirements of the black-out and to describe in detail, with the help of photographs and drawings showing typical situations, the manner in which various types of

The photographs shown with this article were furnished through the courtesy of the New York City office of the Associated British & Irish Railways, Inc. Consisting of scenes showing bomb damage to various types of railroad facilities in England, they serve to convey some conception of the havoc that can be caused to railroad property as a result of enemy attacks by air. The scenes showing the damaged structures after repairs had been made constitute a tribute to the effectiveness of the organizations for making emergency repairs that have been developed by the English roads.

Left Above—Showing Bomb Damage to a Passenger Platform and Station Tracks on the Great Western Railway of England. Above —After the Damage Had Been Repaired

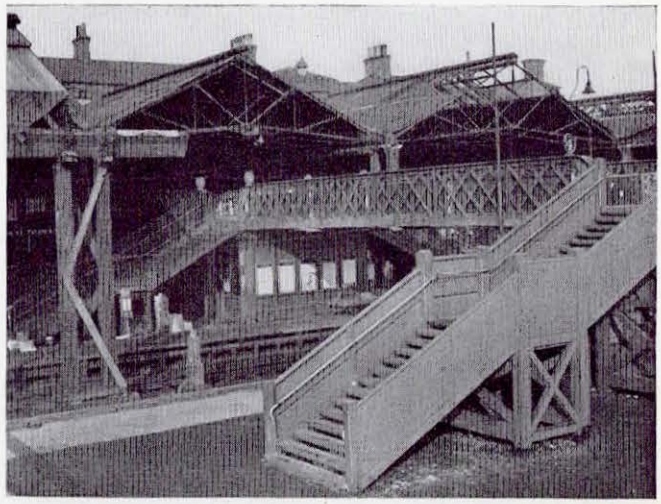
structures can be blacked out. There is a chapter on transportation, which includes a relatively brief discussion of the railroad problem. This discussion lays down certain rules for the treatment of various types of railroad lights, but these are only of a general nature, and no attempt is made to specify the exact manner in which the various sources of light that are peculiar to the railroads are to be screened, dimmed or eliminated. Hence, the problem of determining the specific manner in which railroad lights are to be blacked out is left to the roads, and for the purpose of developing recommended practices regarding blackout methods and devices a special committee of the Association of American Railroads was organized several months ago to study the problem. It is understood that the report of this committee, embracing recommended practices based on extensive tests, will be issued in the near future.

In the meantime, most of the railroads in the East, acting in conjunction with local defense agencies, the Office of Civilian Defense and the War Department, have taken at least some individual action toward making blackout preparations and in perfecting air-raid precautions in general, and, in some instances, the roads have co-operated during trial blackouts. As a whole, the matter of blacking out sources of light that are peculiar to the railroads, such as roadway and crossing signals, switch lamps, and moving trains, is being held in abeyance, pending release of the A. A. R. report, although, acting independently, a number of roads have made tests of various devices and methods, and a number of them have taken some action.

Blacking Out Buildings

Since the principles involved in blacking out buildings in general are applicable to most railroad structures, substantial progress has been made on some roads in perfecting plans for blacking out such buildings as stations, offices, interlocking towers, etc. As a whole, however, progress in this regard has been spotty. Some railroads have done little or nothing, others have made only a start in this direction. A few, however, have not only completed blackout arrangements, but have also built up complete emergency organizations, including air-raid wardens, fire-fighting brigades and first-aid staffs. Some railroads are endeavoring to set up system-wide standards for blacking out their facilities for

Below, Left—This Pile of Debris Was What Was Left of a Station of the London, Midland & Scottish Railway Following an Air Raid. Below Right—The Same Station After Repairs Had Been Made



air-raid precautions in general, but civilian defense authorities have raised the question as to whether this is practicable or necessary, pointing out that conditions may vary widely at different points on the same line. For instance, it may not be necessary to take the same precautions far inland as in areas directly adjacent to the coast.

The manner in which railroad buildings are being blacked out can best be understood through a description of the methods employed on a railroad where plans for air-raid precautions are far advanced. On this road the practice in general is to provide some form of covering for the windows of offices and structures, such as train despatchers' offices and signal towers, that must function 24 hr. a day, and simply to switch off the lights in buildings where it is not absolutely necessary that operations be continued during air-raid alerts. To permit employees and patrons to find their way about darkened buildings, colored incandescent lamps, giving only a faint light that is invisible from the exterior, have been installed in corridors, passageways, stairways, waiting rooms and similar places.

Instructions have been issued to govern the conduct of employees during air-raid alerts to the end that doors and windows in blacked-out structures will not be opened and that light from other sources will not be displayed. The method to be used in covering the windows of structures to be blacked out, that is, whether paint or cloth or other material is to be used, depends on local conditions, and to a large extent is left to the discretion of the division forces. In offices and structures on this road that are not generally lighted at night, but where there is a possibility that the lights may be turned on during the hours of darkness, employees are required to draw the shades before leaving for the day.

An Outstanding Example

A large passenger station and office building of this company in a metropolitan area affords an outstanding example of careful and thorough planning in providing air-raid precautions. Here, in addition to the blackout measures described above, the precautions that have been taken include the designation of places of relative safety to which patrons will be directed during air-raid alerts. Directional signs, painted with luminous paint that is visible in the dark, have been installed to indicate the way to these points of safety. Incidentally, the railroads are endeavoring to impress on the public the fact that railroad stations, being likely targets during air raids, are not safe places of refuge and should be avoided.

As part of the air-raid precautions that have been taken in this station, an organization of company personnel has been developed to take over during alerts, which consists of air-raid wardens, a fire-fighting brigade and a first-aid staff. Also, the existing fire-fighting equipment has been overhauled and additional equipment, including special types needed for extinguishing fire bombs, has been obtained. Finally, it is planned to install a "howler" air-raid warning system.

Sources of Information

In coping with the problem of air-raid precautions the roads may have recourse to various sources of information. For example, the Office of Civilian Defense has established a regional office in each army corps area to which are attached a number of specially-trained army officers whose duty it is to work with the various local defense organizations and industries in perfecting plans for the blackout and other phases of civilian defense.

Bomb Damage Caused the Collapse of This Girder Bridge Carrying Tracks of the Southern Railway of England Across a Public Road

Among these officers in each regional office is one whose duties are primarily concerned with transportation matters. However, these officers act only in a liaison or advisory capacity and are not prepared to furnish definite plans and specifications for blackout methods and devices.

Also, it is to be expected that much can be learned by studying the experiences of the railroads in England. One possible source of such information is a report that has been prepared by an advisory committee that was appointed by the Secretary of War a year or more ago. Known as the National Technological Civil Protection Committee, this group is headed by Walter D. Binger, a consulting engineer, and includes in its personnel a representative of the American Railway Engineering Association. Last fall Mr. Binger spent several weeks in England studying problems of civilian defense, including those of the railroads. His findings have since been incorporated in a report to the Secretary of War. However, this report has not yet been given general circulation and its contents apparently are not yet available for practical application.

Another source of information on English practices is an exhibit of blackout devices, drawings, literature and photographs that is available for the inspection of railway officers at the New York offices of the Associated British & Irish Railways, Inc. Included in this

Another Scene of Bomb Damage at a Passenger Station on the L. M. S.

exhibit are drawings of oil-burning train and hand lamps; representative specimens of screens used for obscuring the glow of locomotive fire boxes; samples of netting and cellophane used for window treatment, together with an explanatory pamphlet and a specification covering this material; and a booklet entitled "Air Raid Precautions—Special Instructions for the Working of Railways."

Operating Problems

In planning for air raids, the railroads are confronted with a number of knotty operating problems. For instance, to what extent should train service be continued during air-raid alerts, and at what speeds should trains be operated? Again, should yard operations be curtailed during blackout periods, or should an attempt be made to continue them on a normal basis? Generally speaking, final decisions have not been reached regarding these and similar questions, but apparently it is the intention to maintain service on as nearly a normal basis as possible. This policy gives recognition to the fact that one of the purposes of air raids is to demoralize the normal life of the community, and that this objective can be defeated by carrying on with essential transport services and operations to the fullest possible extent.

So far as commuter service is concerned, one road, which carries a heavy commuter business into and out of a large eastern city, has tentatively decided that, in the event of an air-raid alert during the morning rush hour, all incoming trains will be stopped wherever they may happen to be. However, if an alert should be sounded during the evening rush hour, outgoing trains will be operated as nearly on schedule as possible. This road is also giving consideration to the problems of how to protect commuter locomotives, which, during the day, are normally spotted together in a relatively compact group in such a manner that wholesale destruction could be caused by a single hit. This problem could be solved by scattering the engines widely or by moving them to outlying points.

Another operating problem that is receiving consideration is that of assuring a continuance of communications and train-despatching activities during alerts. To this end, one railroad is studying a plan for creating a portable despatchers' office in a railway car so that, in the event of damage to normal despatching services, the portable outfit could be brought into service at a point of safety somewhere out on the line. An alternative plan would be to provide emergency despatching offices at outlying points in signal towers or other places where the necessary wires are available. This latter plan is receiving attention on a number of roads.

Sabotage

Sabotage is another danger confronting the railroads, for nothing would be more disruptive to the war effort than interruptions to railway service because of damage to vital structures. For this reason important bridges and tunnels throughout the country are now patrolled and guarded day and night. Also, many roads have undertaken campaigns to educate their employees to be on the alert for possible saboteurs. In fact, in a number of cases where signal maintainers are on duty 24 hr. a day at important movable bridges, the maintainers have been deputized in order better to cope with suspicious persons. One possibility is that outdoor transformers could be put out of order by rifle fire at the hands of saboteurs, and in at least one instance action has been taken to thwart such activity by piling sand bags against the fence surrounding an important transformer.

Bomb-Wrecked Interior of the Snow Hill Station of the Great Western Railway at Birmingham

Regarding the problem of sabotage, the Federal Bureau of Investigation has said that railroad employees should be constantly on the alert for acts indicating possible violations of the sabotage, espionage or related statutes and should report them immediately to the nearest office of the FBI. It explains that prompt reporting of such violations will be of great assistance to the FBI in its investigation of violations of national defense laws within its jurisdiction, which include the train-wreck statute making it a federal offense to wreck or attempt to wreck a train engaged in interstate commerce. So far in the current emergency there has been a negligible amount of sabotage as compared with a similar period during the first World War, but constant vigilance, says the FBI, is needed today more than ever before.

Railway police are playing a vital part in the protection of railway property. For some months now railway police in the East as well as throughout the entire country have been participating actively in the greatest mass mobilization of law enforcement officers in the

nation's history. After being designated as the central clearing house in all matters pertaining to the internal security of the country in 1939, the FBI, under Director J. Edgar Hoover, at once co-ordinated the activities of the entire law enforcement field through the FBI Law Enforcement Officers Mobilization Plan for National Defense. Railway police have been regular attendants at the quarterly national defense conferences that are being held by the FBI throughout the country pursuant to this plan. Then, too, railway police are today attending the 260 civilian defense schools for police that are being conducted by the FBI with the approval of the Office of Civilian Defense. The six-day course of instruction that is offered in these schools was formulated on the basis of several months of study and observation by FBI representatives in England during 1940 and 1941, and covers the entire field of civilian defense, from gas decontamination to the enforcing of blackouts.

Plans for Making Repairs

Of equal importance with the various measures described in the foregoing are the precautions that the railroads are taking to expedite the repair of bomb damage if it should occur. These precautions, as already noted, consist largely of refinements applied to the methods and organizations that are already in existence for coping with emergencies caused by track and bridge washouts and other types of damage. Regarding these normal forms of damage, individual railroads know from experience where their vulnerable points are and where trouble is most likely to develop, say, during periods of heavy rainfall. Hence, they can make their plans accordingly. On the other hand, bomb damage is likely to occur anywhere at any time; hence, a new condition is introduced which must be given consideration in formulating plans for carrying out repair and rehabilitation work.

On some roads these plans have included the accumulation of emergency stocks of timber-trestle material, which are stored at strategic points. However, experience in England has demonstrated that bomb craters are seldom so large that they cannot be filled quickly with embankment material, and at least one road has taken steps to assure itself of a supply of such material. It is a normal practice on this particular line to accumulate supplies of cinders in the winter months for use during the working season in widening embankments and in cindering cut slopes. During the present season such supplies have been accumulated on an even greater scale than usual, but it is planned to refrain from using them for the usual purposes in order that they will be available for the repair of any bomb damage that may occur. Another step that has been taken by one road has been to remove to another location part of a considerable stock of emergency bridge material that was formerly maintained in the vicinity of a large city. The purpose in this case was to decentralize the material, so that, in the event of an attack, the danger of losing all of it would be minimized. Still another road has loaded stocks of various emergency repair materials in cars so that they will be available for instant shipment to points of damage.

An example of the refinements in organization that can be made in order more effectively to cope with bomb damage is afforded by the practice of an eastern line. In order that the company will be prepared at a moment's notice to cope with damage incurred at any point on its lines, it has compiled a complete record of available materials, machines and key men. Regarding manpower, this record not only gives the names and locations of supervisory officers and foremen, but also the names and places of residence of all work-equipment operators and a record of the types of machines that each man is qualified to operate. Also, in addition to listing the various items of company-owned work equipment and their location, the record contains a listing of contractor-owned equipment suitable for railroad use that would be available at various locations in case of necessity.

In summary, it is apparent that, although the railroads as a whole are far from being fully-prepared for meeting every contingency that may arise in the present emergency, their activities indicate that they have a keen appreciation of the problem and of their responsibilities, and that, as studies now in progress begin to show results, further substantial progress will be made.

Locomotive Fuel Figures Accurately Compared

By E. E. Ramey*

THE fuel performance statistics of the individual railroads and groups of roads that are customarily published and discussed are based upon the final summation, separated for each class of service, i.e., passenger, freight and yard, of all the fuel of every kind used in those respective classes of service, each kind of fuel being converted to its equivalent in net tons of coal and the totals for the three classes of service so stated.

It seems probable that the customary discussion of only these final totals has become responsible for the impression, which appears to be somewhat generally held, that no information is compiled covering the various kinds of fuels that go to make up the totals as converted to equivalent net tons of coal. This, however, is far from the actual situation.

The monthly reports of operating statistics required by the Interstate Commerce Commission on the Forms OS-A, OS-B, OS-C and OS-E, specify the separate reporting of each kind of fuel and power, measured in the units under which it is purchased, as used in each of the three classes of service, also the corresponding separate reporting of the service units, i.e., gross ton-miles, passenger train car miles, and yard engine hours, produced by the use of each kind of fuel and power, as well as the calculation of the unit consumption in pounds, gallons or kilowatt-hours per gross ton-mile, per passenger train car-mile and per yard engine-hour for each separate kind of fuel and power.

The membership of the Railway Fuel and Traveling Engineers' Association, which is representative of the railroad supervising officers who are concerned at first hand with the locomotive fuel performance and with the reports that are made in connection therewith, have discussed at intervals during the past several years, the subject of coal equivalents for the several kinds of fuel and power, with particular reference to the wide variation in the values of the equivalents that are in use on different railroads.

The report of this association's Committee on Fuel Records and Statistics for 1940 dealt with the present status of this subject and the report for 1941, which was abstracted in the *Railway Age*, September 27th, proposed procedure for developing coal equivalents, that would re-

(*Text continued on page 793*)

* Superintendent fuel conservation, Baltimore & Ohio, and vice-president Railway Fuel and Traveling Engineers' Association.

Unit Fuel and Power Consumption of Locomotives and Rail Motor Cars—Railways of Class I in the United States (excluding Switching and Terminal Companies) Calendar Years 1941 and 1940

Road		Fuel and power consumed per yard-switching locomotive-hour: Lb. of coal (steam locos.)	Gals. of fuel oil (steam locos.)	Kw.-hrs. (electric locos.)	Gals. of gasoline (gasoline and gas-electric locos.)	Gals. of Diesel fuel (Diesel locos.)	Equated lb. of fuel (all locos.)	Fuel and power consumed per 1,000 gross ton-miles (includ. locos. and tenders)—road freight service: Lb. of coal (steam locos.)	Gals. of fuel oil (steam locos.)	Kw.-hrs. (electric locos.)	Equated lb. of fuel (all road frt. locos.)	Fuel and power consumed per passenger-train car-mile—road passenger service: Lb. of coal (steam locos.)	Gals. of fuel oil (steam locos.)	Gals. of Diesel fuel (Diesel locos.)	Kw.-hrs. (electric locos.)	Kw.-hrs. (motor-car trains)	Gals. of gasoline (motor-car trains)	Gals. of Diesel fuel (motor-car trains)	Equated lb. of fuel (all road-pass. service)
SUMMARY:																			
Eastern District	1941	728	64.79	116	8.5	5.24	664	115	17.57	23.29	111	16.2	2.04	.26	3.5	6.0	.61	.26	14.1
	1940	735	66.02	120	8.5	5.29	675	117	16.13	24.03	113	16.3	1.65	.26	3.5	6.0	.59	.23	14.3
Pocahontas Region	1941	854	...	...	...	4.98	854	79	...	49.30	80	16.7	...	.37	28.1	...	.47	...	16.3
	1940	859	...	...	...	...	859	81	...	51.71	82	16.9	...	.39	27.0	...	.46	...	16.7
Southern Region	1941	807	76.17	1,364	...	7.44	755	125	7.53	...	124	16.7	.93	.26	...	6.1	.42	.25	14.4
	1940	799	74.59	334	...	7.75	773	126	7.66	...	126	16.5	.92	.26	...	5.9	.41	.24	15.1
Western District	1941	820	58.04	143	13.2	6.01	734	115	8.10	30.41	111	18.1	1.06	.25	4.0	5.4	.45	.18	15.9
	1940	825	59.21	144	20.2	6.12	759	117	8.16	31.41	113	17.5	1.07	.24	3.9	5.9	.44	.17	15.6
UNITED STATES	1941	766	58.28	121	9.7	5.78	705	113	8.10	27.45	111	16.8	1.06	.26	3.5	6.0	.48	.22	14.9
	1940	772	59.47	125	12.7	5.81	723	115	8.16	28.60	112	16.7	1.06	.25	3.5	6.0	.47	.22	15.0
NEW ENGLAND REGION:																			
Bangor & Aroostook	1941	850	...	...	...	...	850	118	...	...	118	13.2	...	...	...	...	...	...	13.3
	1940	910	...	...	...	...	910	127	...	...	127	13.5	...	...	...	...	...	...	13.5
Boston & Albany	1941	584	...	...	...	7.03	581	147	...	...	147	19.6	...	...	...	...	...	...	19.6
	1940	576	...	...	...	6.64	568	155	...	...	155	19.5	...	...	...	...	...	...	19.5
Boston & Maine	1941	730	...	...	5.6	4.94	524	92	...	207.69	94	15.7	...	...	...	...	.43	.19	15.5
	1940	732	...	...	5.1	4.99	525	97	...	213.71	98	16.3	...	...	...	...	.44	.18	16.1
Canadian National Lines in New England	1941	1,230	...	...	...	...	1,231	106	...	...	106	28.8	...	...	...	...	...	...	28.8
	1940	1,217	...	...	...	...	1,219	107	...	...	108	24.2	...	...	...	...	...	...	24.2
Canadian Pacific (lines in Maine)	1941	686	...	...	...	...	691	97	...	...	97	11.6	...	...	...	...	...	...	11.6
	1940	721	...	...	...	...	728	97	...	...	97	12.1	...	...	...	...	...	...	12.1
Canadian Pacific (lines in Vermont)	1941	577	...	...	...	...	577	119	...	...	119	16.3	...	...	...	...	...	...	16.3
	1940	590	...	...	...	...	590	120	...	...	120	14.9	...	...	...	...	...	...	14.9
Central Vermont	1941	664	...	...	...	3.28	661	109	...	...	109	17.0	...	...	...	...	.29	...	16.4
	1940	648	...	...	...	...	649	101	...	...	101	16.2	...	...	...	...	.32	...	15.9
Maine Central	1941	569	...	...	5.3	6.46	430	106	...	...	105	14.0	...	...	...	...	...	.19	13.5
	1940	579	...	...	5.7	6.60	417	110	...	...	110	13.9	...	...	...	...	...	.19	13.3
New York Connecting	1941	...	...	...	...	...	...	...	...	31.18	46	...	...	...	4.1	...	...	...	6.1
	1940	...	...	...	...	...	...	...	...	32.89	48	...	...	...	3.9	...	...	...	5.7
New York, New Haven & Hartford	1941	744	...	80	...	5.76	481	118	...	25.31	103	16.1	...	.29	4.1	5.0	.63	.20	11.7
	1940	800	13.33	80	...	5.99	509	123	17.06	26.48	107	16.5	...	.27	4.1	5.0	.70	.21	11.9
Rutland	1941	593	...	...	...	...	593	128	...	...	128	15.1	...	...	...	...	...	...	15.1
	1940	592	...	...	...	...	592	138	...	...	138	14.6	...	...	...	...	...	...	14.6
TOTAL NEW ENGLAND REGION	1941	699	...	94	5.4	5.63	527	110	...	28.33	105	16.4	...	.29	4.1	5.0	.47	.19	14.0
	1940	718	13.33	94	5.3	5.81	539	115	16.97	29.57	109	16.6	...	.27	4.1	5.0	.50	.19	14.3
GREAT LAKES REGION:																			
Ann Arbor	1941	515	...	...	...	3.88	434	94	...	...	94	27.2	...	...	...	...	...	...	27.2
	1940	551	...	...	...	3.98	548	97	...	...	97	27.1	...	...	...	...	...	...	27.1
Cambria & Indiana	1941	...	...	...	...	...	...	268	...	...	268	...	...	...	...	...	...	...	...
	1940	...	...	...	...	...	...	279	...	...	279	...	...	...	...	...	...	...	...
Delaware & Hudson	1941	677	...	...	...	...	677	106	17.04	...	106	15.1	...	...	...	...	...	...	15.1
	1940	725	...	...	...	...	725	116	18.71	...	116	14.4	...	...	...	...	...	...	14.4
Delaware, Lackawanna & Western	1941	972	...	261	...	5.12	792	125	...	...	125	20.1	...	1.03	...	5.2	...	...	19.3
	1940	1,019	...	185	...	5.06	848	131	...	...	131	20.3	...	.73	...	5.4	...	...	19.6
Detroit & Mackinac	1941	729	...	...	...	...	733	105	...	...	108	14.5	...	...	...	...	.56	...	14.1
	1940	611	...	...	...	...	613	112	...	...	112	12.5	...	...	...	...	.44	...	11.8
Detroit & Toledo Shore Line	1941	624	...	...	...	...	624	79	...	...	79	...	...	...	...	...	...	...	...
	1940	611	...	...	...	...	611	83	...	...	83	...	...	...	...	...	...	...	...
Erie (includ. Chicago & Erie)	1941	686	...	...	9.3	6.15	686	93	...	...	93	18.9	...	...	...	...	.85	.47	19.2
	1940	696	...	...	9.3	6.18	695	95	...	...	96	19.4	...	...	...	...	.84	.47	19.4
Grand Trunk Western	1941	800	57.30	...	...	4.48	769	86	...	...	86	14.9	...	...	...	...	...	.13	14.9
	1940	814	55.97	...	...	4.57	784	94	...	...	94	15.8	...	...	...	...	.28	...	15.8
Lehigh & Hudson River	1941	901	...	...	...	...	901	103	...	...	103	...	...	...	...	...	...	...	...
	1940	900	...	...	...	...	900	109	...	...	109	...	...	...	...	...	...	...	...
Lehigh & New England	1941	600	...	...	...	...	600	174	...	...	174	...	...	...	...	...	...	...	...
	1940	655	...	...	...	...	655	176	...	...	176	...	...	...	...	...	...	...	...
Lehigh Valley	1941	836	...	135	9.0	4.90	597	107	...	...	107	14.2	...	.19	6.8	...	.72	...	13.9
	1940	902	...	76	9.0	5.07	618	109	...	...	110	14.7	...	.49	6.7	...	.59	...	14.2

Unit Fuel and Power Consumption of Locomotives and Rail Motor Cars—Railways of Class I in the United States (excluding Switching and Terminal Companies) Calendar Years 1941 and 1940

Road		Fuel and power consumed per yard-switching locomotive-hour						Fuel and power consumed per 1,000 gross ton-miles (includ. locos. and tenders)—road freight service				Fuel and power consumed per passenger-train car-mile—road passenger service							
		Lb. of coal (steam locos.)	Gals. of fuel oil (steam locos.)	Kw.-hrs. (electric locos.)	Gals. of gasoline (gasoline and gas-electric locos.)	Gals. of Diesel fuel (Diesel locos.)	Equated lb. of fuel (all locos.)	Lb. of coal (steam locos.)	Gals. of fuel oil (steam locos.)	Kw.-hrs. (electric locos.)	Equated lb. of fuel (all road frt. locos.)	Lb. of coal (steam locos.)	Gals. of fuel oil (steam locos.)	Gals. of Diesel fuel (Diesel locos.)	Kw.-hrs. (electric locos.)	Kw.-hrs. (motor-car trains)	Gals. of gasoline (motor-car trains)	Gals. of Diesel fuel (motor-car trains)	Equated lb. of fuel (all road-pass. service)
Monongahela	1941	870	...	...	...	...	871	87	...	...	87	41.6	...	...	...	...	1.14	...	44.7
	1940	849	...	...	...	...	849	92	...	...	92	50.8	...	...	...	...	1.21	...	49.9
Montour	1941	1,348	...	...	...	...	1,348	336	...	...	336	...	...	...	...	...	...	...	...
	1940	1,340	...	...	...	...	1,340	309	...	...	309	...	...	...	...	...	...	...	...
New York Central	1941	694	...	120	...	5.43	645	98	15.85	47.69	98	14.0	2.04	...	3.6	4.6	.58	...	13.5
	1940	705	...	126	...	5.52	659	101	15.25	48.96	100	14.2	1.65	...	3.7	4.7	.57	...	13.7
New York, Chicago & St. Louis	1941	643	...	...	...	...	643	87	...	...	87	20.5	...	...	13.2	...	...	...	20.5
	1940	681	...	...	...	...	681	89	...	...	89	20.9	...	...	13.4	...	...	...	20.9
New York, Ontario & Western	1941	538	...	...	...	4.53	536	188	...	...	188	11.6	...	...	...	...	...	...	11.6
	1940	537	...	...	...	...	537	192	...	...	192	11.4	...	...	...	...	...	...	11.4
New York, Susquehanna & Western	1941	797	...	...	...	6.31	792	242	...	...	242	38.3	...	...	...	...	1.09	.45	30.0
	1940	823	...	...	...	...	823	232	...	...	232	39.7	...	...	...	...	1.04	.32	33.5
Pere Marquette	1941	683	...	...	...	4.94	672	93	...	...	93	14.6	...	...	...	...	...	...	14.2
	1940	694	...	...	...	4.42	680	95	...	...	95	14.9	...	...	...	...	...	...	14.9
Pittsburgh & Lake Erie	1941	649	...	...	...	...	649	86	...	...	86	28.7	...	...	...	...	...	...	28.7
	1940	609	...	...	...	...	609	83	...	...	83	30.3	...	...	...	...	...	...	30.3
Pittsburg & Shawmut	1941	...	...	...	...	...	...	227	...	...	227	...	...	...	...	...	...	...	...
	1940	...	...	...	...	...	...	231	...	...	231	...	...	...	...	...	...	...	...
Pittsburgh & West Virginia	1941	1,118	...	...	...	...	1,118	156	...	...	156	...	...	...	...	...	...	...	...
	1940	1,201	...	...	...	...	1,201	150	...	...	150	...	...	...	...	...	...	...	...
Pittsburg, Shawmut & Northern	1941	1,023	...	...	...	...	1,023	211	...	...	211	...	...	...	...	...	...	...	...
	1940	965	...	...	...	...	965	202	...	...	202	...	...	...	...	...	...	...	...
Wabash	1941	741	...	...	...	5.34	654	108	...	...	108	15.6	...	...	...	...	.26	...	15.5
	1940	741	...	...	...	5.82	672	114	...	...	115	16.9	...	...	...	...	.26	...	16.8
TOTAL GREAT LAKES REGION	1941	716	57.30	122	9.0	5.29	665	101	16.12	48.02	101	15.0	2.04	...	3.7	4.9	.70	.43	14.6
	1940	733	55.97	125	9.0	5.37	681	104	15.95	49.29	104	15.3	1.65	.49	3.8	5.0	.65	.38	14.9
CENTRAL EASTERN REGION:																			
Akron, Canton & Youngstown	1941	712	...	...	...	...	712	120	...	...	120	...	...	...	...	...	...	...	...
	1940	790	...	...	...	...	790	130	...	...	130	...	...	...	...	...	...	...	...
Baltimore & Ohio	1941	703	48.92	29	...	4.79	697	140	...	207.34	140	21.7	...	.26	10.2	...	.35	.36	19.4
	1940	703	55.58	33	...	4.21	697	139	...	203.24	140	19.9	...	.26	10.7	...	.35	.34	18.8
Bessemer & Lake Erie	1941	630	...	...	...	5.74	633	86	...	...	86	20.9	...	...	...	...	...	...	21.0
	1940	631	...	...	...	5.63	636	90	...	...	90	21.9	...	...	...	...	...	...	21.9
Central of New Jersey	1941	550	...	...	...	4.16	464	132	...	...	132	24.7	...	...	...	...	...	...	24.7
	1940	589	...	...	...	4.25	473	129	...	...	129	23.8	...	...	...	...	...	...	23.8
Chicago & Eastern Illinois	1941	1,041	...	...	...	5.22	974	122	...	...	122	18.3	...	...	...	...	.39	...	18.6
	1940	1,031	...	...	...	5.35	966	129	...	...	129	18.2	...	...	...	...	.39	...	18.4
Chicago & Illinois Midland	1941	1,098	...	...	...	...	1,100	165	...	...	165	33.4	...	...	...	...	...	...	33.5
	1940	1,253	...	...	...	...	1,256	172	...	...	172	30.7	...	...	...	...	...	...	30.8
Chicago, Indianapolis & Louisville	1941	1,044	...	...	...	...	1,047	125	...	...	125	20.2	...	...	...	...	...	...	20.2
	1940	1,088	...	...	...	...	1,091	128	...	...	128	20.7	...	...	...	...	...	...	20.7
Detroit, Toledo & Ironton	1941	712	...	...	...	4.95	707	101	...	...	101	...	...	...	...	...	...	...	...
	1940	710	...	...	...	...	710	104	...	...	104	...	...	...	...	...	...	...	...
Elgin, Joliet & Eastern	1941	866	...	...	...	5.38	478	119	...	...	119	...	...	...	...	...	...	...	...
	1940	803	...	...	...	5.09	606	121	...	...	121	...	...	...	...	...	...	...	...
Illinois Terminal Co.	1941	1,032	...	57	...	...	569	93	...	24.78	48	...	...	...	...	3.4	.23	...	4.3
	1940	1,070	...	56	...	...	573	94	...	24.62	49	...	...	...	...	3.5	.22	...	4.4
Long Island	1941	695	...	73	...	5.91	491	332	...	87.76	307	19.6	...	...	7.0	5.4	...	...	10.7
	1940	692	...	89	...	5.84	517	351	...	80.61	322	20.1	...	...	7.0	5.5	...	...	10.7
Missouri Illinois	1941	...	...	...	...	...	...	252	...	...	252	24.8	...	...	...	...	.42	...	9.2
	1940	...	...	...	...	...	...	292	...	...	292	28.5	...	...	...	...	.36	...	9.3
Pennsylvania System	1941	755	76.09	120	8.1	4.10	729	124	34.87	21.49	112	15.6	...	...	3.3	8.1	.67	.28	11.8
	1940	739	74.47	119	8.6	4.38	708	124	18.54	22.18	110	15.5	...	...	3.3	8.1	.63	.26	11.8
Pennsylvania-Reading-Seashore Lines	1941	564	69.76	...	...	...	586	233	...	...	234	19.7	...	...	...	8.2	.68	...	18.9
	1940	570	70.56	...	...	...	599	244	...	...	244	21.3	...	...	...	8.2	.69	...	20.2
Reading Co.	1941	598	...	204	...	4.70	475	133	...	...	133	22.1	...	.30	...	7.9	.83	.31	19.5
	1940	617	...	202	...	4.60	527	134	...	...	134	21.4	...	...	...	8.0	.80	.24	18.8
Staten Island Rapid Transit	1941	980	...	...	...	...	980	761	...	...	761	91.1	...	...	...	5.6	...	...	8.3
	1940	977	...	...	...	...	977	719	...	...	719	84.6	...	...	...	5.6	...	...	8.7

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		Lb. of coal (steam locos.)	Gals. of fuel oil (steam locos.)	Kw.-hrs. (electric locos.)	Gals. of gasoline (gasoline and gas-electric locos.)	Gals. of Diesel fuel (Diesel locos.)	Equated lb. of fuel (all locos.)	Lb. of coal (steam locos.)	Gals. of fuel oil (steam locos.)	Kw.-hrs. (electric locos.)	Equated lb. of fuel (all road frt. locos.)	Lb. of coal (steam locos.)	Gals. of fuel oil (steam locos.)	Gals. of Diesel fuel (Diesel locos.)	Kw.-hrs. (electric locos.)	Kw.-hrs. (motor-car trains)	Gals. of gasoline (motor-car trains)	Gals. of Diesel fuel (motor-car trains)	Equated lb. of fuel (all road-pass. service)
Western Maryland	1941	1,078	...	...	...	3.61	1,066	156	...	...	156	32.2	...	...	...	...	...	...	32.2
	1940	1,084	...	...	...	...	1,084	160	...	...	160	30.2	...	...	...	...	...	...	30.2
Wheeling & Lake Erie	1941	875	...	...	...	7.25	814	124	...	...	124	...	...	...	...	...	...	...	...
	1940	903	...	...	...	7.93	874	123	...	...	123	...	...	...	...	...	...	...	...
TOTAL CENTRAL EASTERN REGION	1941	742	68.83	119	8.1	5.02	681	130	34.87	21.94	122	17.7	...	.26	3.4	6.3	.54	.33	13.8
	1940	738	69.95	124	8.6	4.77	688	130	18.54	22.58	122	17.4	...	.26	3.4	6.3	.54	.30	13.7
POCAHONTAS REGION:																			
Chesapeake & Ohio	1941	801	...	...	...	...	801	72	...	...	72	15.7	...	...	...	...	.41	...	15.8
	1940	805	...	...	...	...	805	73	...	...	73	16.2	...	...	...	...	.39	...	16.1
Norfolk & Western	1941	917	...	...	...	...	917	83	...	84.46	87	18.1	...	...	28.1	...	...	...	18.2
	1940	931	...	...	...	...	931	85	...	88.10	89	18.4	...	...	27.0	...	...	...	18.5
Richmond, Fred. & Potomac	1941	708	...	...	...	4.98	708	100	...	46.22	100	15.5	...	.37	...	...	.86	...	13.6
	1940	645	...	...	...	...	645	103	...	53.87	103	14.9	...	.39	...	...	.77	...	14.1
Virginian	1941	1,320	...	...	...	...	1,320	106	...	37.96	94	29.8	...	...	...	...	...	...	29.8
	1940	1,367	...	...	...	...	1,367	106	...	39.52	98	31.2	...	...	...	...	...	...	31.2
TOTAL POCAHONTAS REGION:	1941	854	...	...	...	4.98	854	79	...	49.30	80	16.7	...	.37	28.1	...	.47	...	16.3
	1940	859	...	...	...	...	859	81	...	51.71	82	16.9	...	.39	27.0	...	.46	...	16.7
SOUTHERN REGION:																			
Alabama Great Southern	1941	748	...	...	...	5.53	736	114	...	...	114	15.7	...	.25	...	...	...	.35	14.1
	1940	852	...	...	...	...	852	101	...	...	101	16.8	...	...	...	...	...	.36	15.6
Atlanta & West Point (incl. Western Ry. of Alabama)	1941	795	...	...	...	...	795	144	...	...	144	14.5	...	...	...	...	...	...	14.5
	1940	735	...	...	...	...	735	142	...	...	142	14.1	...	...	...	...	...	...	14.1
Atlanta, Birmingham & Coast	1941	716	...	...	...	...	716	131	...	...	131	33.6	...	...	...	...	...	...	33.6
	1940	735	...	...	...	...	735	129	...	...	129	35.0	...	...	...	...	...	...	35.0
Atlantic Coast Line	1941	758	...	...	...	8.76	739	110	...	...	110	15.0	...	.27	...	...	...	...	12.4
	1940	758	...	...	...	8.24	739	111	...	...	111	13.8	...	.23	...	...	...	...	13.2
Central of Georgia	1941	829	...	...	...	7.28	595	120	...	...	120	17.0	...	.22	...	...	...	...	16.7
	1940	813	...	...	...	6.35	758	121	...	...	121	17.1	...	.29	...	...	...	...	7.1
Charleston & Western Carolina	1941	577	...	...	...	...	577	133	...	...	133	21.1	...	...	...	...	...	...	21.1
	1940	584	...	...	...	...	584	137	...	...	137	22.7	...	...	...	...	...	...	22.7
Cincinnati, New Orleans & Texas Pacific	1941	954	...	...	...	5.00	922	109	...	...	103	15.7	...	.28	...	...	...	.33	13.3
	1940	912	...	...	...	...	912	107	...	...	107	15.7	...	...	...	...	...	.35	15.6
Clinchfield R. R.	1941	925	...	...	...	...	925	134	...	...	134	19.3	...	...	...	...	...	...	19.3
	1940	962	...	...	...	...	962	137	...	...	137	19.2	...	...	...	...	...	...	19.2
Columbus & Greenville	1941	930	...	...	...	...	930	149	...	...	149	17.5	...	...	...	...	.38	...	16.6
	1940	947	...	...	...	...	947	160	...	...	160	20.9	...	...	...	...	.40	...	19.9
Florida East Coast	1941	...	77.11	...	...	...	918	...	7.53	...	90	...	.93	.26	...	...	...	...	8.1
	1940	...	76.84	...	...	...	915	...	7.66	...	91	...	.92	.25	...	...	...	...	9.5
Georgia R. R.	1941	691	...	...	...	...	691	129	...	...	129	12.3	...	...	...	...	.16	...	12.3
	1940	648	...	...	...	...	648	132	...	...	132	12.4	...	...	...	...	.16	...	12.4
Georgia & Florida	1941	976	...	...	...	...	976	141	...	...	141	49.0	...	...	...	...	.04	...	10.0
	1940	850	...	...	...	...	852	148	...	...	148	26.0	...	...	...	...	.05	...	11.2
Georgia, Southern & Florida	1941	906	...	...	...	5.81	416	129	...	...	129	12.6	...	.28	...	...	...	...	12.5
	1940	828	...	...	...	6.12	722	127	...	...	127	12.3	...	...	...	...	...	...	12.3
Gulf & Ship Island	1941	869	...	...	...	...	869	142	...	...	142	18.7	...	...	...	...	...	...	18.7
	1940	836	...	...	...	...	836	152	...	...	152	19.7	...	...	...	...	...	...	19.7
Gulf, Mobile & Ohio	1941	899	...	...	...	6.03	690	107	...	...	107	20.8	...	.23	...	...	.45	.18	8.1
	1940	880	...	...	...	5.34	876	111	...	...	111	16.2	...	.22	...	...	.43	.19	10.0
Illinois Central (incl. Yazoo & Mississippi Valley	1941	871	...	137	...	9.12	780	124	...	...	124	16.8	...	.21	...	6.1	.35	.22	15.5
	1940	899	...	149	...	8.42	801	129	...	...	129	16.8	...	.33	...	5.9	.34	.17	15.7
Louisville & Nashville	1941	772	...	...	...	4.76	768	121	...	...	121	17.9	...	...	...	...	.40	...	17.9
	1940	732	...	...	...	4.66	730	125	...	...	125	17.7	...	...	...	...	.40	...	17.7
Mississippi Central	1941	824	...	...	...	...	824	130	...	...	130	30.0	...	...	...	...	...	...	30.0
	1940	758	...	...	...	...	758	127	...	...	127	27.8	...	...	...	...	...	...	27.8
Nashville, Chattanooga & Tennessee	1941	778	...	...	...	5.02	775	143	...	...	143	17.5	...	...	...	...	...	...	17.5
	1940	776	...	...	...	...	778	139	...	...	139	17.3	...	...	...	...	...	...	17.4
New Orleans & Northeastern	1941	793	...	...	...	4.84	709	99	...	...	99	13.5	...	.25	...	...	...	...	11.2
	1940	768	...	...	...	...	768	97	...	...	97	14.3	...	...	...	...	...	...	14.3

Unit Fuel and Power Consumption of Locomotives and Rail Motor Cars—Railways of Class I in the United States (excluding Switching and Terminal Companies) Calendar Years 1941 and 1940

Road		Fuel and power consumed per yard-switching locomotive-hour						Fuel and power consumed per 1,000 gross ton-miles (includ. locos. and tenders)—road freight service				Fuel and power consumed per passenger-train car-mile—road passenger service							
		Lb. of coal (steam locos.)	Gals. of fuel oil (steam locos.)	Kw.-hrs. (electric locos.)	Gals. of gasoline (gasoline and gas-electric locos.)	Gals. of Diesel fuel (Diesel locos.)	Equated lb. of fuel (all locos.)	Lb. of coal (steam locos.)	Gals. of fuel oil (steam locos.)	Kw.-hrs. (electric locos.)	Equated lb. of fuel (all road frt. locos.)	Lb. of coal (steam locos.)	Gals. of fuel oil (steam locos.)	Gals. of Diesel fuel (Diesel locos.)	Kw.-hrs. (electric locos.)	Kw.-hrs. (motor-car trains)	Gals. of gasoline (motor-car trains)	Gals. of Diesel fuel (motor-car trains)	Equated lb. of fuel (all road-pass. service)
Norfolk Southern	1941	621	...	...	...	...	621	98	...	...	98	15.8	...	...	...	...	.34	...	13.6
	1940	674	...	...	...	...	674	99	...	...	99	16.0	...	...	...	...	.33	...	14.0
Seaboard Air Line	1941	561	65.19	...	...	6.61	540	122	...	...	122	15.1	...	.26	...	...	.41	.19	11.0
	1940	569	59.54	...	...	5.87	565	122	...	...	122	15.3	...	.26	...	...	.40	.19	10.8
Southern Ry. Co. (incl. Northern Alabama)	1941	897	...	...	...	6.75	829	141	...	...	141	17.4	...	.25	...	...	...	.36	15.4
	1940	847	...	...	...	5.54	844	140	...	...	140	17.7	...	...	...	...	...	.36	17.4
Tennessee Central	1941	944	...	...	...	6.28	631	179	...	...	179	28.0	...	...	...	...	...	...	28.0
	1940	962	...	...	...	6.28	637	179	...	...	180	31.4	...	...	...	...	...	...	31.4
TOTAL SOUTHERN REGION	1941	807	76.17	1.364	...	7.44	755	125	7.53	...	124	16.7	.93	.26	...	6.1	.42	.25	14.4
	1940	799	74.59	334	...	7.75	773	126	7.66	...	126	16.5	.92	.26	...	5.9	.41	.24	15.1
NORTHWESTERN REGION:																			
Chicago & North Western	1941	916	57.42	...	...	5.44	902	117	9.67	...	118	19.6	1.41	.23	...	...	.42	...	19.0
	1940	906	57.00	...	...	5.55	894	116	10.15	...	117	19.0	1.16	.23	...	...	.43	...	18.5
Chicago Great Western	1941	937	...	...	8.0	6.61	776	115	8.06	...	115	20.0	2.71	...	...	...	.51	...	17.3
	1940	926	...	...	8.0	6.60	751	121	7.91	...	121	21.1	...	...	...	...	.52	...	18.1
Chicago, Milwaukee, St. Paul & Pacific	1941	799	45.43	173	...	5.61	742	109	9.03	30.19	115	17.1	1.03	.20	3.9	...	.41	...	17.2
	1940	805	52.17	180	14.2	5.41	770	112	9.79	31.30	118	16.9	.96	.28	3.7	...	.40	...	17.0
Chicago, St. Paul, Minneapolis & Omaha	1941	636	...	...	...	5.55	648	110	...	...	110	15.9	...	.28	...	...	.41	...	16.5
	1940	660	...	...	...	5.50	662	113	...	...	113	15.7	1.00	.29	...	...	.37	...	16.4
Duluth, Missabe & Iron Range	1941	823	...	...	...	...	825	63	...	...	63	31.1	...	...	...	...	...	...	31.2
	1940	815	...	...	...	...	817	67	...	...	67	32.3	...	...	...	...	...	...	32.4
Duluth, South Shore & Atlantic	1941	625	...	...	...	...	627	118	...	...	118	15.3	...	...	...	...	...	...	15.3
	1940	639	...	...	...	...	641	118	...	...	118	16.6	...	...	...	...	...	...	16.6
Duluth, Winnipeg & Pacific	1941	1,340	...	...	...	...	1,341	101	...	...	101	15.4	...	...	...	...	...	...	15.4
	1940	1,351	...	...	...	...	1,351	99	...	...	99	14.3	...	...	...	...	...	...	14.3
Great Northern	1941	907	65.13	...	...	6.96	663	91	6.47	32.22	96	14.6	1.01	.33	4.7	...	.41	.22	16.4
	1940	946	62.54	...	...	7.08	679	96	6.69	31.80	100	13.7	1.02	.21	4.7	...	.41	.22	16.5
Green Bay & Western	1941	700	...	...	...	6.40	665	120	...	...	120	...	...	...	...	...	...	...	...
	1940	638	...	...	...	6.74	651	122	...	...	122	...	...	...	...	...	...	...	...
Lake Superior & Ishpeming	1941	699	...	...	...	...	702	115	...	...	116	...	...	...	...	...	...	...	...
	1940	696	...	...	...	...	699	116	...	...	116	...	...	...	...	...	...	...	...
Minneapolis & St. Louis	1941	999	...	...	...	7.62	1,028	121	...	...	122	15.6	...	...	...	...	.39	...	28.3
	1940	999	...	...	...	7.64	1,114	134	...	...	134	23.3	...	...	...	...	.41	...	30.7
Minneapolis, St. Paul & S. S. Marie	1941	669	...	...	...	6.25	644	96	...	...	97	14.0	...	...	...	...	...	...	14.0
	1940	676	...	...	...	6.33	649	100	...	...	100	13.4	...	...	...	...	...	...	13.4
Northern Pacific	1941	773	45.33	...	...	6.04	751	125	6.65	...	124	22.7	1.44	...	...	...	.43	...	22.7
	1940	790	46.07	...	...	6.03	776	131	6.57	...	131	22.3	.99	.36	...	...	.41	...	21.8
Spokane International	1941	566	...	...	...	...	566	96	...	...	96	13.2	...	...	...	...	...	...	13.3
	1940	481	...	...	...	...	481	93	...	...	93	12.2	...	...	...	...	...	...	12.3
Spokane, Portland & Seattle	1941	...	59.14	107	...	5.33	504	...	7.54	27.85	92	...	1.22	.17	...	...	...	...	14.5
	1940	...	57.82	106	...	4.99	650	...	7.35	30.24	91	...	1.14	...	...	...	...	...	13.6
TOTAL NORTHWESTERN REGION	1941	829	58.81	146	8.0	6.20	762	109	7.06	30.36	109	18.7	1.07	.24	4.0	...	.42	.22	18.2
	1940	832	57.50	150	12.7	6.38	778	112	7.34	31.34	113	18.3	1.03	.24	3.9	...	.42	.22	17.9
CENTRAL WESTERN REGION:																			
Alton R. R.	1941	906	...	...	...	...	908	136	...	...	136	15.9	...	.25	...	...	.36	...	15.6
	1940	913	...	...	...	...	915	130	...	...	130	14.8	...	.23	...	...	.35	...	14.6
Atchison, Topeka & Santa Fe Ry. System	1941	764	61.45	...	...	6.49	791	108	8.21	...	116	28.0	1.00	.26	...	...	.58	...	15.4
	1940	806	63.44	...	...	6.69	806	105	8.27	...	116	27.6	1.00	.26	...	...	.56	...	15.4
Chicago, Burlington & Quincy	1941	797	55.79	...	6.5	5.72	707	106	8.09	...	108	17.3	1.35	.21	...	...	.45	.18	18.4
	1940	833	58.57	...	6.2	5.51	759	111	8.39	...	113	17.3	1.27	.19	...	...	.45	.18	17.3
Chicago, Rock Island & Pacific (incl. Chicago, Rock Island & Gulf)	1941	922	66.32	...	9.7	5.62	816	124	8.11	...	110	20.7	1.16	.26	...	...	.53	.21	19.9
	1940	943	67.55	...	15.0	5.61	829	135	8.30	...	116	21.1	1.25	.26	...	...	.48	.28	19.6
Colorado & Southern	1941	517	55.00	...	...	...	544	158	50.25	...	159	24.1	1.25	.33	...	...	...	...	23.7
	1940	514	58.83	...	...	...	544	157	37.45	...	158	21.0	1.27	.31	...	...	...	...	20.8
Colorado & Wyoming	1941	718	...	...	...	...	718	238	...	...	238	...	...	...	...	...	...	...	...
	1940	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

Unit Fuel and Power Consumption of Locomotives and Rail Motor Cars—Railways of Class I in the United States (excluding Switching and Terminal Companies) Calendar Years 1941 and 1940

Road		Fuel and power consumed per yard-switching locomotive-hour						Fuel and power consumed per 1,000 gross ton-miles (includ. locos. and tenders)—road freight service				Fuel and power consumed per passenger-train car-mile—road passenger service							
		Lb. of coal (steam locos.)	Gals. of fuel oil (steam locos.)	Kw.-hrs. (electric locos.)	Gals. of gasoline (gasoline and gas-electric locos.)	Gals. of Diesel fuel (Diesel locos.)	Equated lb. of fuel (all locos.)	Lb. of coal (steam locos.)	Gals. of fuel oil (steam locos.)	Kw.-hrs. (electric locos.)	Equated lb. of fuel (all road frt. locos.)	Lb. of coal (steam locos.)	Gals. of fuel oil (steam locos.)	Gals. of Diesel fuel (Diesel locos.)	Kw.-hrs. (electric locos.)	Kw.-hrs. (motor-car trains)	Gals. of gasoline (motor-car trains)	Gals. of Diesel fuel (motor-car trains)	Equated lb. of fuel (all road-pass. service)
Denver & Rio Grande Western	1941	744	...	...	...	5.15	712	159	...	...	159	20.3	...	...	...	...	...	.37	20.3
	1940	748	...	...	...	...	748	155	...	...	155	18.8	...	...	...	...	...	...	18.8
Denver & Salt Lake	1941	1,442	...	...	...	...	1,442	250	...	...	250	37.7	...	...	...	...	...	...	37.7
	1940	1,437	...	...	...	...	1,437	256	...	...	256	36.6	...	...	...	...	...	...	36.6
Fort Worth & Denver City	1941	667	77.43	...	...	7.67	923	75	9.51	...	131	23.0	1.44	.30	...	...	.47	...	25.1
	1940	...	76.88	...	...	6.61	885	...	10.34	...	142	21.0	1.37	.21	...	...	.44	.12	19.7
Nevada Northern	1941	1,012	...	...	...	...	1,012	103	...	...	103	19.6	...	...	...	...	...	...	19.6
	1940	958	...	...	...	...	958	101	...	...	101	19.3	...	...	...	...	...	...	19.3
Northwestern Pacific	1941	...	54.39	...	...	...	647	...	10.42	...	124	...	1.44	...	...	6.8	.47	...	16.1
	1940	...	54.22	...	...	...	645	...	10.82	...	129	...	1.38	...	...	6.3	.47	...	15.0
Southern Pacific Co.—Pacific Lines	1941	802	49.33	10	...	4.86	535	107	8.39	...	100	11.7	1.01	.25	...	...	.62	...	12.0
	1940	825	50.77	18	...	4.73	582	106	8.14	...	98	13.5	1.03	.27	...	...	.59	...	12.3
Toledo, Peoria & Western	1941	1,008	...	...	...	...	1,008	124	...	...	124	...	...	...	...	...	...	...	...
	1940	964	...	...	...	...	964	134	...	...	134	...	...	...	...	...	...	...	...
Union Pacific R. R. Co.	1941	744	53.95	...	...	6.86	691	118	10.85	123.10	124	15.7	1.17	.26	...	...	.14	...	15.2
	1940	708	55.79	...	...	6.87	701	116	10.57	89.87	121	14.5	1.10	.23	...	...	.22	...	14.2
Utah Ry.	1941	950	...	...	...	...	951	231	...	...	231	...	...	...	...	...	...	...	...
	1940	971	...	...	...	...	971	240	...	...	240	...	...	...	...	...	...	...	...
Western Pacific	1941	736	53.91	...	...	4.76	545	109	7.71	...	96	6.8	.94	...	...	...	...	...	11.1
	1940	628	54.00	...	...	4.99	522	105	7.50	...	93	15.6	.94	...	...	...	...	...	11.2
TOTAL CENTRAL WESTERN REGION	1941	792	54.77	10	14.8	5.87	697	119	8.51	123.10	115	17.3	1.04	.25	...	6.8	.50	.20	15.6
	1940	799	56.37	18	30.3	5.95	729	119	8.43	89.87	115	16.7	1.05	.23	...	6.3	.48	.18	15.2
SOUTHWESTERN REGION:																			
Burlington-Rock Island	1941	...	...	...	...	...	...	...	10.37	...	123	...	1.35	.22	...	...	.40	.12	2.7
	1940	...	...	...	...	...	...	...	11.02	...	131	...	1.13	...	...	...	.40	.12	2.3
Gulf Coast Lines	1941	...	71.26	...	...	7.10	835	...	7.88	41.26	94	...	1.23	...	...	4.8	.12	...	14.3
	1940	...	70.74	...	...	...	842	...	8.42	53.37	100	...	1.24	...	...	4.8	.11	...	14.4
International Great Northern	1941	...	75.23	...	...	5.90	735	...	9.08	...	108	...	1.22	...	...	...	...	...	14.5
	1940	...	75.40	...	...	5.89	762	...	9.46	...	113	...	1.24	...	...	...	...	...	14.8
Kansas City Southern	1941	1,041	74.02	...	...	7.09	959	135	8.68	...	113	25.3	1.55	.28	...	...	...	...	18.7
	1940	1,037	72.62	...	...	6.90	953	129	8.79	...	113	21.9	1.68	.33	...	...	...	...	20.7
Kansas, Oklahoma & Gulf	1941	531	...	...	...	...	531	117	...	...	117	...	...	...	...	...	.54	...	5.9
	1940	530	...	...	...	...	530	123	...	...	123	24.0	...	...	...	...	.52	...	5.8
Louisiana & Arkansas (incl. Louisiana, Arkansas & Texas)	1941	...	71.80	...	...	10.52	851	...	7.71	...	92	...	1.45	.21	...	...	...	...	14.7
	1940	...	68.34	...	...	...	814	...	8.06	...	96	...	1.40	.20	...	...	...	...	15.3
Midland Valley	1941	745	...	...	...	...	745	126	...	...	126	...	...	...	...	...	...	...	...
	1940	762	...	...	...	...	763	126	...	...	126	...	...	...	...	...	...	...	...
Missouri & Arkansas	1941	...	...	...	...	...	...	180	...	...	181	23.1	...	...	...	...	.37	...	30.1
	1940	...	...	...	...	...	...	165	...	...	165	31.0	...	...	...	...	.33	...	28.9
Missouri-Kansas Texas Lines	1941	664	54.46	...	...	...	653	274	7.09	...	85	12.7	.95	...	...	...	.41	...	11.1
	1940	691	56.39	...	...	...	678	136	7.26	...	89	21.2	.97	...	...	...	.44	...	11.5
Missouri Pacific	1941	892	74.52	...	...	5.77	821	117	7.54	...	113	18.6	1.14	.34	...	...	.44	...	15.7
	1940	896	74.98	...	...	6.21	850	119	7.77	...	116	18.9	1.15	.33	...	...	.41	...	15.9
Oklahoma City-Ada-Atoka	1941	...	...	...	...	...	...	163	...	...	163	...	...	...	...	...	...	...	...
	1940	...	...	...	...	...	...	155	...	...	155	...	...	...	...	...	...	...	...
St. Louis-San Francisco	1941	811	67.57	...	...	10.70	810	129	9.06	...	121	37.5	1.22	...	...	...	.38	...	14.9
	1940	839	67.48	...	...	...	826	134	9.35	...	124	88.2	1.28	...	...	...	.38	...	15.5
St. Louis, San Francisco & Texas	1941	...	74.62	...	...	...	888	...	10.77	...	128	...	1.35	...	...	...	.45	...	16.7
	1940	...	68.76	...	...	...	818	...	11.26	...	134	...	1.50	...	...	...	.44	...	17.7
St. Louis Southwestern Lines	1941	909	72.28	...	...	...	877	195	6.76	...	83	...	1.47	...	...	...	.32	...	17.0
	1940	914	66.29	...	...	...	831	205	7.06	...	87	...	1.56	...	...	...	.31	...	17.9
Texas & New Orleans	1941	...	61.43	...	...	6.60	691	...	7.15	...	85	...	.86	...	...	...	.41	...	10.0
	1940	...	64.14	...	...	...	764	...	7.42	...	88	...	.86	...	...	...	.42	...	9.9
Texas & Pacific	1941	...	61.24	...	...	...	729	...	7.10	...	85	...	1.00	...	...	...	...	...	11.9
	1940	...	60.19	...	...	...	717	...	7.20	...	86	...	1.04	...	...	...	...	...	12.4
Texas Mexican	1941	...	126.66	...	...	6.59	118	...	25.12	...	26	...	...	...	...	...	...	...	...
	1940	...	61.74	...	...	5.31	98	...	12.18	...	34	...	...	...	...	...	...	...	...
TOTAL SOUTHWESTERN REGION	1941	857	65.10	...	...	6.09	779	121	7.58	41.26	102	18.9	1.08	.29	...	4.8	.40	.12	13.6
	1940	869	65.28	...	...	6.12	799	124	7.86	53.37	106	19.3	1.11	.31	...	4.8	.40	.12	13.9

Compiled by Association of American Railroads, Bureau of Railway Economics, Washington, D. C., Feb. 17, 1942.

Morse Raps Transportation Assn.

"Public" member of War Labor Board does not take kindly to criticism of its handling of T. P. & W. case

WAYNE L. MORSE, "public" representative of the National War Labor Board, in a letter to J. A. Gordon, president of the Transportation Association of America, on April 9, has taken exception to the statement issued by the Association on the government's seizure of the T. P. & W. Mr. Morse expressed himself as "deeply shocked by such gross misrepresentations of fact of which your Association is obviously guilty."

Mr. Morse criticized the Transportation Association's circular which was sent to its members and to farm, trade, and civic organizations throughout the country. In the government seizure of the T. P. & W. the Association professed to see "a definite threat to democratic ways, and any attempt to use the war emergency as a pretext to establish precedent of federal encroachment of this nature will not help any of us in preserving individual freedom and enterprise after this war is over." The statement, in part, went on to say:

"Late in 1940 the Brotherhood of Locomotive Firemen & Enginemen and the Brotherhood of Railroad Trainmen succeeded in a unionization movement and in November of that year were recognized by the Mediation Board as sole bargaining agents. Then came a demand for the rates of pay, rules and working conditions prevalent on neighborhood western trunk lines. The management offered counter proposals. There was failure to agree. Resort was had to mediation. On November 21, 1941, the Mediation Board notified both parties that its service had failed and urged arbitration. Both sides refused arbitration. Next, the unions notified the Mediation Board that a strike was called for December 6. This was deferred at the request of the Mediation Board and the parties were summoned to Washington. Mediation again failed. At this stage, the unions finally agreed to arbitrate; management declined.

Arbitration Not Required by Law

"The procedure thus far was strictly in accord with the Railway Labor Act which provides, first, a serious attempt at peaceful settlement between the parties themselves; next, mediation; next arbitration. The Act specifically provides 'that the failure or refusal of either party to submit a controversy to arbitration shall not be construed as a violation of any legal obligation imposed upon such party by the terms of this Act (the Railway Labor Act) or otherwise.' Should arbitration be declined, the law reads: 'If a dispute between a carrier and its employees be not adjusted under the foregoing provisions of this Act and should, in the judgment of the Mediation Board, threaten substantially to interrupt interstate commerce to a degree such as to deprive any section of the country of essential transportation service, the Mediation Board shall notify the President, who may thereupon, in his discretion, create a board to investigate and report respecting such dispute.' The Act designates such a board an Emergency Board. Let it be noted that it is left to the judgment of the Mediation Board whether or not it should make a certification to the President. Nor does the law make it incumbent upon the President to take any action on the findings of an Emergency Board if one be created.

"The foregoing legislation was enacted several years ago. Now the situation is complicated because on January 12, 1942, the President issued Executive Order No. 9017 setting up a National War Labor Board to adjust and settle labor disputes which might interrupt work contributing to the effective prosecution of the war. The Board is empowered to determine disputes using mediation, voluntary arbitration or arbitration under rules established by the Board. It is definitely set forth, however, that the order creating this War Labor Board 'does not apply to labor disputes for which procedures for adjustment or settlement are otherwise provided until those procedures have been exhausted.'

Mediation Board Did Not Certify to President

"At no stage, so far as we know, did the Mediation Board make a certification of any kind to the President. However, the Department of Labor got into the controversy and certified it to the National War Labor Board. This Board at first took the position, and we feel very sure it was the logical and proper position, that settlement should be effected under the terms of the Railway Labor Act. Eventually, the War Labor Board did assume jurisdiction and in its turn tried mediation. When that failed, it sought an arbitration agreement. Management continued to decline arbitration under the Railway Labor Act because the third arbitrator would be appointed by the Mediation Board and management doubted the impartiality of the Mediation Board. Finally, the War Labor Board ordered arbitration. Management refused to go along, alleging that the War Labor Board was not vested with authority to issue such an order.

"Management favored the appointment of an Emergency Board. All the members of such a board would be appointed by the President, not by the Mediation Board. Hearings before such a board would be open, and the reasonableness or unreasonableness of labor's demands would be given wide publicity.

"To sum up thus far: direct negotiation failed; mediation failed; arbitration was declined; an Emergency Board was not created; and the War Labor Board assumed jurisdiction and ordered arbitration.

"Observe the technical difficulty entering at this point: Management's 'defiance' of the Labor Board was based upon the clause in Executive Order No. 9017 which provided that the order did not apply to labor disputes for which procedures for adjustment or settlement are otherwise provided until these procedures have been exhausted.

"Railway labor is covered by its own special legislation—The Railway Labor Act. It is not illogical to contend, therefore, that the Railway Labor Act is exclusive and controlling.

One Procedure Not Yet Exhausted

"The War Labor Board supports its taking jurisdiction by contending that procedures under the Railway Labor Act had been exhausted. Yet, an Emergency Board had not been created; hence, this one procedure was not exhausted. We think it would have been infinitely better if an emergency board had been appointed so that the public might have been enlightened on all aspects of the dispute. For instance, McNear alleged that what the unions were asking of him would have required him to employ 83 men where he was employing only 55. A threshing out of that sort of thing before an impartial board would be enlightening. The public is certainly entitled to such information.

"Seizure by the Government should have been based on a showing that there was a substantial interference with interstate traffic and more especially with war traffic. There are no war industries located along the line. In the early days of the strike, at the beginning of the year, when service was greatly curtailed, seizure was not resorted to. Weeks later, after management had employed ample forces and was moving traffic in normal fashion, pickets broke out into violent interfering actions despite court injunction. There followed a forced curtailment of traffic movement whereupon seizure took place. Would it not have been fairer for the Government to have afforded the lawful protection to which the railroad was entitled, and then if the traffic were not moved satisfactorily, think about seizure of the property?

"No one will have aught to say against the right and duty of Government to seize property necessary to preservation of its very life. But differences of opinion will bob up as to when and

how and under what circumstances property should be taken. A property right is at stake. Rather than short-cutting, we should lean over backwards to abide by the letter and spirit of the Constitution which prescribes that property shall not be taken without due process. We assert again that 'due process' ought to have included an Emergency Board. In any event, we wonder if any substantial interference with interstate traffic was shown or could be shown when there are a number of other roads over which the traffic could be detoured with very little loss of time.

"And Director Eastman declined to make a certification to the War Labor Board. He said that he did not consider the T. P. & W. essential to the war effort.

"We see in this incident a threat to democratic ways. We hold no brief for McNear; we do not know the man; we write impersonally. But in the halls of Congress, in the press, and by radio, he has been denounced as a traitor, as unpatriotic, etc., and yet he has merely stood for what he considered his rights. So far as our investigation reveals, McNear always stood within the law. Only one question can be raised: whether the War Labor Board really had authority to order arbitration? If it had, then McNear was wrong to have defied that order. But it isn't clear that the War Labor Board does have such power, and just so long as there is debate and doubt on that point, McNear is entitled to the benefit of that doubt.

"What now? The Government adopted as a starter the rates of pay, rules and working conditions which were in effect before the strike. Labor is seeking, as it sought before, to obtain the scale prevalent on neighboring trunk lines. We don't profess to know whether such a scale is appropriate on this little road or not. It is unfortunate that an impartial Emergency Board was not appointed and given opportunity to make recommendations based on its investigations.

"We do feel strongly that whatever scale the Government puts into effect should be specifically limited to the period of Government tenure. It would not be right to hand the property back to its owner with a schedule of rates and rules, in the negotiation of which the owner did not participate, or to which he did not agree."

Claims "National Agreement" Against Strikes

After accusing the Transportation Association of "gross misrepresentations of fact," Mr. Morse proceeded as follows:

"Your circular falls short of being either a fair or accurate account of the issues involved in the Toledo, Peoria & Western case. It overlooks completely the fact that there is a national agreement that there shall be no strikes or lockouts during the war and that all labor disputes shall be settled by the processes of mediation, conciliation, and arbitration, and if necessary by final determination of the War Labor Board.

"Mr. McNear was given an opportunity to arbitrate the dispute, according to procedure established by the Congress of the United States under the Railroad Labor Act, but he refused. He was asked to advise the War Labor Board as to what form of arbitration he would agree to, if any. The record of the case leaves no room for doubt that Mr. McNear acted in exceedingly bad faith and in open defiance of the War Labor Board and the President of the United States. How anyone, let alone your Association, can support him in his unpatriotic stand is difficult for me to comprehend.

"Your circular shows that you have not taken into account the fact that our entrance into the war makes it imperative that the President exercise his war powers in those instances when either labor or employers participate in disputes which interfere with the successful prosecution of the war. After a full investigation, it became clear that the facts warranted the exercise of those powers because of Mr. McNear's continued defiance of a government at war.

"May I say to you with all good feeling that this is no time for you or the Transportation Association of America or any other group to give support and comfort to those whose conduct constitutes an interference with the successful prosecution of this war."

In reply to this letter Mr. Gordon said in part:

"You make a sweeping assertion that our Association is guilty of gross misrepresentation of facts, but you carefully refrain from sending along a bill of particulars. Was it wrong to say that government should have backed up its court's injunction against violence? Were we wrong in contending that procedure for peaceable settlement was not thoroughly exhausted in that an Emergency Board was not appointed? Granted that such a board was not mandatory, what possible objection could there be to it? Each side would be afforded equal opportunity to defend its course and there would be the added advantage that the public would be enlightened on the issues.

"Were we very wrong in saying that the dispute should have been settled under the Railway Labor Act? The point is at least debatable. Your own board thought so at one time. And there is reason to believe, since McNear never objected to an Emergency Board, that settlement could have been reached via that procedure.

T. P. & W. Not Essential to War

"We can see no possible defense for the action taken by your board unless it was shown that the T. P. & W. was essential to the war effort. We cited Mr. Eastman as proclaiming that the road was not essential to the war effort. And let it be remembered that Mr. Eastman, more than any man in the country, is concerned with successful transportation. We say to you frankly that if the road were torn up, the impact on war effort would not be perceptible.

"True, we didn't make mention of the agreement between the President and labor union chiefs eliminating strikes for the duration—But what would you? The strike had been in progress some weeks before that agreement was effected. McNear wasn't on a strike. What would you have had him do? Or is it in your mind perhaps that labor should have called off the strike immediately after the President announced the agreement?

"You assert that McNear acted in bad faith. The implication is that we are supporting an unworthy individual and therefore guilty. We're not McNear's attorney; we don't know the man; never saw him; never heard of him until this strike was pulled. But wherein was he guilty of bad faith? Bad faith, to our thinking, means breaking or ignoring promises. Our reading of the affair convinces us that he at all times made his position clear and merely fought for what he regarded as his rights. Where was the breach of faith?"

Locomotive Fuel Figures Accurately Compared

(*Continued from page 786*)

duce the wide variation in the values of the equivalents now reported by the different roads. The discussion of the latter report led to a resolution adopted by unanimous vote of the membership that appropriate action be taken to influence the publication at regular intervals of the complete details of locomotive fuel performance now reported by the individual roads.

Later the Executive Committee authorized correspondence with the director of the Bureau of Railway Economics to develop the practicability of a yearly publication of a statement showing the details reported by each Class I Railroad to the I. C. C. on Form OS-E, sub items referring to the unit performance with each of the several kinds of fuels and power used in road freight service, road passenger service and yard switching service. As a result the Bureau of Railway Economics has recently published and distributed such a statement, comparing the reports of the individual roads for the years 1941 and 1940.*

Study of the details of this statement affords a closer insight into the features affecting the fuel performance records of the individual roads than can be obtained from the statistical statements that are customarily published, and some light is thrown upon the feature of coal equivalents for the various kinds of fuel and power which is now receiving renewed study by many of our railroads.

* This statement is reproduced on pages 787 to 791 inclusive, in this issue.

U. S. Provides Education For R. R. Personnel

INDUSTRIES connected with defense—which, of course, include the railroads—have available to them, at the expense of the federal government, valuable educational opportunities for qualified employees, supervisory personnel especially. The justification for this service is the government's concern to promote to the utmost the efficiency of war-connected industries.

Under the title "Engineering, Science and Management Defense Training" the Federal Security Agency has recently introduced classes in hundreds of accredited colleges and universities throughout the country in subjects ranging from Industrial Management to Accounting and Production Engineering. Classes are customarily held one night a week for about two hours and are open to students employed or "employable in the type of work to which the training is directed." In general a high school education is the minimum qualification for admission to any E. S. M. D. T. class. No charge is made for matriculation or tuition; the student need buy only text books and supplies. Courses, colleges of instruction, dates of opening classes, etc, are set forth in Circular E. S. M. D. T.—Misc.—258, issued by the Federal Security Agency, U. S Office of Education, Washington, D. C.

One road which has drawn these courses to the attention of its staff, with effective results, is the New York Central. L. W. Horning, manager of personnel of the New York Central, learned of this new educational opportunity recently and advised supervisory employees in and around New York, and, because the opening date of classes was near, reserved places at New York University for an estimated maximum of 60 students from the New York Central. Actually 78 Central employees registered within 48 hours.

The latter have already attended several classes and report that: (1) the course is interesting and sound; (2) the discussions are helpful; and (3) the instructor is a practical man, with 22 years' experience as superintendent of the printing plant of a large metropolitan newspaper. The N. Y. U. course is entitled "Foreman or Supervisory Training" and is held each Thursday evening, 8 to 9:45 p. m., for a period of 15 weeks. Topics discussed are as follows:

(1) New Needs of Training and Instruction
(2) How to Manage
(3) Qualities of a Good Supervisor or Foreman
(4) Today's Economic Situation
(5) Selection of Workers
(6) Discovering Worker's Abilities
(7) Need of Increasing Efficiency
(8) Accident Prevention
(9) Men and Machines
(10) Maintenance of Equipment
(11) Records and Costs
(12) Collective Bargaining
(13) How to Correct Workers
(14) How to Handle Grievances
(15) Relations with Superiors

Mr. Horning, upon further inquiry, discovered that some 30 other colleges and universities in 9 states served by the railroad system were offering similar courses, and has made this information available to foremen and general foremen at freight houses and piers, yardmasters and chief clerks and others.

THE FIRST OF THREE NEW ESCALATORS for the use of Long Island passengers was placed in service at Pennsylvania station, New York, on March 27. Operation of the new escalator will relieve congestion of inbound commuters during the early morning hours.

Communication . . .

Financing Maintenance Work

HOUSTON, TEX.

TO THE EDITOR:

For some time past I have been giving serious consideration to the probable handicaps that will confront the American railroads as a result of deferred maintenance brought about by the war conditions through which we are now passing—handicaps that will present themselves not alone during the war period itself, but of equal importance and concern to the railways, their employees and the public alike, in the post-war period, unless some means is devised to overcome them. My consideration of this problem has given rise to certain specific suggestions which I shall endeavor to set forth in this letter—speaking simply as a citizen and not as a railroad officer.

Based upon present indications, there will be an increasing shortage of the replacement, renewal and repair materials needed for the adequate maintenance of the plant and equipment of the American railroads. The reduced allocation of steel and other metals for railroad uses has already curtailed renewal and repair programs and may, conceivably, result in a complete stoppage of all such work beyond the minimum needs for safe maintenance. In spite of the fact that railway operating revenues during the war period will be ample to meet the full requirements of maintenance and replacements, there will be an accrual of deferred maintenance which must be overcome early in the post-war period if the railroads are to serve the country adequately during the transition from war-time to peace-time activities.

In order that the railroads may be in a position to meet these post-war requirements, it is essential that provision be made during the war period for some method of amortization which will provide ultimately for those replacements, renewals and repairs that will have been deferred. Therefore, it is suggested that consideration be given to the early enactment of federal legislation designed to permit the accrual of charges for such work during the war period, and the performance of the work in subsequent years when materials again become available. Such legislation should provide that:

(1) Any railroad desiring to take advantage of the provisions of the proposed law should file with the Interstate Commerce Commission a statement outlining the program of replacements, renewals and repairs contemplated for each calendar year, with the estimated cost thereof.

(2) To the extent that such a railroad is unable to perform the contemplated program within the calendar year designated, it would be authorized to charge the estimated cost to the appropriate capital and operating expense accounts. The charges to operating expense accounts would have the effect of reducing "Net Revenue from Railway Operations" and there would likewise be an appropriate reduction in "Railway Tax Accruals."

(3) The monies accrued and charged as contemplated in (2) would be invested in U. S. War Bonds.

(4) During the post-war period these bonds would be used in financing the unaccomplished portions of the annual programs as provided for in (1).

(5) This back-log of replacements, renewals and repairs would be undertaken and completed in regulated amounts depending upon urgency and the then availability of materials, and would be in addition to the normal annual programs for such work to be undertaken during the post-war years.

The value of legislation such as suggested would come from (a) the reservoir of funds created to pay for the unfilled material requirements that would await the mills and factories after the war, which would then be seeking markets for their outputs; (b) the consequent labor demand that would be created, both on the railroads using the materials and in the supplying industries, and (c) the enabling means which it would provide for rehabilitating the railroads to meet the needs of the country. The resulting benefits would be distinctly in the public interest, as they would provide an employment back-log without the appropriation of public funds.

I have discussed the foregoing suggestion with a number of railroad men, all of whom have expressed the opinion that much good could be accomplished if a plan along the suggested lines could be made effective.

F. S. SCHWINN

NEWS

I. C. C. Wipes Out F. E. C. Equities

Capitalization is drastically pared down; interest charges are reduced

Division 4 of the Interstate Commerce Commission has issued a final plan of reorganization for the Florida East Coast which will reduce the capitalization from $95,616,000 to $37,000,000, and the fixed interest charges from $2,823,480 to $507,260, which will be increased to $537,260 by reason of an increased interest rate on fixed interest bearing bonds provided income available for fixed charges shall equal or exceed $1,250,000 a year.

Under the provisions of the plan, which will become effective as of January 1, 1942, the equities of the holders of general unsecured claims not entitled to priority and of stock are found to have no value and do not participate in the distribution of new securities.

The report of Division 4 goes on to declare that the claims of holders of present first and refunding mortgage bonds, totaling $45,000,000 of principal and $24,375,000 of interest which will be accrued and unpaid as of January 1, 1942, cannot be satisfied in full within the capitalization recommended, but these holders will receive all the new income bonds and new stock to be issued in the reorganization, constituting the entire equity remaining in the property after satisfaction of the claims of the present first mortgage bondholders.

Holders of present first mortgage bonds will receive for each $1,000, principal amount, of bonds held, $1,000, principal amount, of new first mortgage 3¾ (4) per cent bonds. Holders of present first and refunding mortgage bonds will get for each $1,000, principal amount, of bonds held and all accrued and unpaid interest thereon to January 1, 1942, $100, principal amount, of new general mortgage income 4½ per cent bonds and 10 shares of new no-par common stock. The equipment trust certificates outstanding will be assumed by the reorganized company.

Under the terms of the plan the new capitalization and charges may be summarized as follows:

Issue	Amount	Annual Requirements
Equipment notes.	$1,992,000	$57,260—Int.
1st mort. series-A bonds	12,000,000	450,000—Int.[1] 200,000—Cap. Fund[2] 60,000—Sink Fund[3]
General-mort. series-A bonds.	4,500,000	202,500—Int. Cont. 22,500—Sink. Fund
Common stock (no par) 450,000 shares	18,508,000	
Total capitalization	37,000,000	992,260

[1] Annual interest on first mortgage bonds will be increased $30,000 annually if income available for fixed charges equals or exceeds $1,250,000 per annum for any 2 consecutive years after consummation of the plan.

[2] Annual mandatory (if earned) capital fund payments will equal 2 per cent of total railway operating revenues for the first 10 years after the effective date of the plan and thereafter 1 per cent will be mandatory (if earned) and 1 per cent discretionary with the board of directors.

[3] Annual sinking fund payments on first mortgage bonds, series-A, will equal one-half of 1 per cent of bonds outstanding but payments will not commence until 10 years after their date of issue.

Better Fill the Coal Bin Now!

Following a meeting of the Eastern Railroad Presidents Conference on April 16, President F. E. Williamson of the New York Central, who is chairman of the conference, strongly urged that all consumers of coal buy and store their supply for next winter without delay—both for their own protection and as an aid to the war program.

"Transportation of coal is one of the major tasks of the carriers," Mr. Williamson said, "and last year constituted about 45 per cent of all freight carried on the New York Central. The heaviest load is ordinarily moved in the fall immediately prior to orders for winter consumption. This year, however, the rapidly increasing production of war material will begin to reach its peak at that time and will monopolize shipping facilities. Therefore all coal bought and stored now, while adequate transportation facilities are available, directly helps the war effort."

Mediation Board Appointment

Ernest A. McMillan, of San Francisco, Calif., has been appointed to the National Mediation Board's staff of mediators. For the past three years Mr. McMillan has been a member of the Board of State Harbor Commissioners of California; and prior to that time he was in railroad service with the Southern Pacific.

Gurley to Address Western Railway Club

Fred G. Gurley, vice-president of the Atchison, Topeka & Santa Fe, will address the Western Railway Club, Chicago, on Monday evening, April 20, on "Our Job Ahead."

Railroads Facing Shortage of Labor

ODT meeting brings suggestions for alleviating the situation

Problems of manning and maintaining the nation's railroads in the face of increasing labor shortages cannot be solved by draft deferment of employees, representatives of the Association of American Railroads were told on April 14 at a meeting called by the Office of Defense Transportation. Who did the telling was not revealed in an ODT press release, making the foregoing comment on the closed meeting which was attended by M. J. Gormley, executive assistant of the A. A. R., Dr. J. H. Parmelee, director of the Bureau of Railway Economics, Otto S. Beyer, director of ODT's Division of Transport Personnel, Lieutenant Commander Patrick H. Winston and Major Francis V. Keesling of the Selective Service Board, and William F. Patterson, chief, Apprentice Training Section, Department of Labor.

The meeting was called to consider a program for dealing with "the growing manpower shortages" revealed in the recently-completed survey conducted by the Division of Transport Personnel in cooperation with the A. A. R. In a letter to A. A. R. President Pelley, Mr. Beyer stated that the survey shows "that the shortage of trained railroad workers in a good many occupations is more serious than we had previously thought." He pointed out that the Selective Service System "has not yet made great inroads upon the railroad industry," adding that the personnel situation is thus bound to become "more and more acute with each passing month."

"At best," said the ODT report on the April 14 meeting, "the representatives [of the A. A. R.] were told, that granting of deferment to railroad employees must be considered only as an opportunity to train workers to replace those called to duty with the armed services. Training is also necessary, it was pointed out, to meet the increasing number of railroad employees made necessary by the growing demands placed on railroad transportation by the war effort." The ODT statement also listed "suggested self-help measures that might be adopted by the railroads" as follows:

1. Raising the hiring-age limits and relaxing physical requirements.
2. Making a drive to rehire former employees,

(*Continued on page 800*)

Oil Loadings Hit Another New High

Carriers transport 525,697 barrels to the Atlantic Seaboard area

Daily tank car movements of petroleum and petroleum products to the east coast reached another new high of 525,697 barrels during the week ended April 4, according to an announcement from Petroleum Coordinator Harold L. Ickes. This is the fifth consecutive week that a new high has been established. The previous record of 506,025 barrels per day was established in the week ended March 28.

At the same time the Coordinator made public a report showing that rail shipments of oil and its products from California into Oregon and Washington increased 20 per cent during the week of April 4. The seven oil companies participating in the northwest movement, which is being developed as a substitute for tanker transportation, reported loading a total of 504 cars during the week, compared with 422 cars in the week ended March 28. In terms of oil, declared Mr. Ickes, this represents an average daily movement of 16,200 barrels for the week of April 4. Figuring the time required for cars to return to California, after unloading, it is estimated that 1,150 tank cars are now engaged in the Pacific northwest service.

In moving 525,697 barrels each day into the east, the 19 oil companies reporting loaded a total of 16,355 cars. Including cars which were on the way back west for reloading, this means that approximately 39,000 tank cars are now engaged in the east coast service, it was explained.

At the same time Mr. Ickes announced the additional curtailment of east coast and Pacific northwest gasoline deliveries, effective April 16, as a step toward meeting the supply deficiency foreseen for the balance of the year. The order will bring the total curtailment to 33⅓ per cent of the calculated normal consumption. The terms are embodied in an amendment to the War Production Board's previous order, which cut deliveries by 20 per cent.

Meanwhile, reports received by Acting Director Howard A. Gray of the Office of Solid Fuels Coordination indicate that "the unprecedented pre-season start in transshipping coal from the lower lake region to delivery points scattered along the reaches of the Great Lakes is materially aiding the nation's war drive."

The acting director said that he had been advised by the Ore & Coal Exchange, an organization maintained by the railroads that serve the lower lake region, that as of April 7 a total of 41,469 railroad carloads of coal had been dumped into colliers at Lake Erie ports for transshipment over the lakes as compared with only 16,676 carloads on the same date last year.

ODT Appointments

A. G. Warren, whose appointment as assistant director of the Office of Defense Transportation's Division of Traffic Movement was noted in the *Railway Age* of April 11, page 774, will head the Division's Section of Traffic Channels. He succeeds Walter Bockstahler who has been placed in charge of a newly-created Section of Merchandise Traffic.

A. R. Mahaney, formerly with the Pennsylvania, has been appointed chief of the Division's Traffic Flow Unit.

Pa. Turnpike Experience Blasts "Barrier" Propaganda

Of the $2,729,941 in yearly fees taken in by the Pennsylvania "Turnpike" (160 miles of "superhighway" between Harrisburg and Pittsburgh) in the first year of its existence, ended September 30 last—trucks contributed $882,108, or 31 per cent, of the total. Such is the disclosure of a tabulation of the revenues of this turnpike in the first year of its operation—presented in the April 14 bulletin of the A. A. R. Eastern Region co-operative research office. By far the predominant truck-type using this highway was the 15-20 ton (gross) tractor and semi-trailer. The average toll paid by one of these trucks for the 160-mile trip was $5.83 or almost 3⅝ cents per mile.

With big trucks like this—droves of them—voluntarily paying so much for just one 160-mile ride, it seems clear that the states are overlooking a big source of revenue in not levying similar tolls wherever their highways permit steady, non-stop going—as this road does.

The fact that use of this turnpike is optional demonstrates that a good road like it is worth 3⅝ cents a mile to the average big truck in the estimation of its operator—hence there is no reason why, when such roads are provided anywhere, the commercial users should not pay similar fees. The experience on this road also goes to show that toll gates and substantial fees are not "barriers" to commerce, as is often dishonestly alleged.

N. Y. Central Employees Buy a Bomber

On Sunday, April 19, New York Central employees will stage a ceremony at Grand Central Terminal, New York, at which they will turn over to the Army a check for $165,000—collected among the system's 135,000 employees—for the purchase of a bombing plane. James A. Farley, former postmaster general, will preside at the presentation and the check will be received for the Army by Colonel A. R. Ginsburgh, aide to the Undersecretary of War.

The presentation is to be made by Russell M. Church, New York Central draftsman, father of Lieut. R. M. Church, Jr., who was killed in action in the Philippines in January. On hand at the ceremony will be a detachment of troops, a military band and employees from all sections and occupations of the Central's system—whose spontaneous patriotism initiated the collection of the funds.

Examiners' Report on South Buffalo

Would have I. C. C. condemn various practices of steel company subsidiary

Making their proposed report on the investigation of the South Buffalo Railway Company, Examiners William J. Koebel and Ernest A. Burslem have recommended Interstate Commerce Commission findings to the effect that, while various practices of that Bethlehem Steel Corporation subsidiary and trunk lines connecting with it are unlawful, the South Buffalo is nevertheless a common-carrier switching railroad and it does not violate the commodities clause of the Interstate Commerce Act in transporting Bethlehem traffic. The proposed report is in the Ex Parte 128 proceeding which was instituted by the commission upon its own motion on November 7, 1938. With the appendices, the report covers 128 mimeographed sheets, and 14 separate recommended findings are set forth.

The object of the proceeding is "to obtain full and complete information about the South Buffalo upon which the commission may be enabled to determine whether, and to what extent, there may exist violations of the Interstate Commerce Act." Respondents in addition to the South Buffalo are "all common carriers by railroad serving the Buffalo, N. Y., switching district." The South Buffalo owns about 90 miles of track, and serves at and adjacent to Lackawanna, N. Y., some 30 industries and six plants of the Bethlehem Steel Company of Pennsylvania. The latter is owned by the Bethlehem Steel Corporation of Delaware, which also holds all of the railroad's capital stock.

Aside from the two general findings that the South Buffalo is a common carrier and that it does not violate the commodities clause, the examiners would have the commission find that the road has facilities and equipment in excess of what is lawfully necessary for and devoted to common-carrier purposes; that certain services performed at Bethlehem's plants and for the Buffalo Tank Corporation are unlawful; and that payment by any line-haul respondent of overhead allowances to certain industries for switching within their plants of cars handled by South Buffalo in terminal switching service is unlawful double payment.

Also, the examiners assert that per diem records have been falsified to the advantage of the South Buffalo; and that demurrage records have been manipulated to the advantage of Bethlehem plants. In the former connection they suggest a finding that there be a check of car-detention records at least every six months to determine a reasonable per diem reclaim rate to be allowed the South Buffalo by its trunk-line connections.

Among the other recommended findings is one to the effect that respondents' practice of allowing cars to be used for storage purposes is unlawful; while another would hold likewise unlawful the use by

the South Buffalo for local and intraplant traffic of cars of South Buffalo's connections. In the latter connection, however, the examiners would defer the effective date of cease and desist orders until six months after the war.

With respect to the other allegedly unlawful practices, the report recommends undeferred cease and desist orders. Also, it would require from the South Buffalo a special report "as to the costs of furnishing services, values of common-carrier property, and revenues received from each service and facility furnished."

New Railroad Carrier Industry Committee Appointed

A second committee to recommend a new minimum wage rate in the railroad carrier industry has been appointed by L. Metcalfe Walling, administrator of the Wage and Hour Division, U. S. Department of Labor, it was announced on April 13. Composed of 12 members equally representative of employers, employees, and the public, the committee will convene at the Piccadilly Hotel, New York City, at 10 a. m. April 28. George E. Osborne, of Stanford University, Palo Alto, Calif., a member of the public group, will be chairman.

The committee, the announcement stated, will study economic conditions in the industry with the view of recommending the highest minimum wage, not exceeding 40 cents an hour, which will not substantially curtail employment in the industry. Since March 1, 1941, the industry has operated under a 36-cent an hour minimum for trunk line employees, and 33 cents an hour for short line workers, in accordance with a wage order issued by the administrator upon the recommendation of the first committee which investigated the industry.

Some 60,000 trunk line employees and 4,000 short line employees received direct wage increases over the 30-cent an hour statutory minimum of the Wage and Hour Law as a result of the first wage order, Mr. Walling said.

The order creating the new committee, as did the first, defines the "railroad carrier industry" as it is defined in the Railroad Retirement Act. This definition includes operations of express companies and sleeping car companies, as well as railroads, together with operations of subsidiary companies (except trucking service) in connection with transportation of passengers or property by railroad.

Reopening of Red Cap Case is Denied

The Interstate Commerce Commission has denied the request of the Cincinnati Union Terminal to reopen the case of Ida M. Stopher v. the Cincinnati Union Terminal Company, Inc., No. 28495, for reconsideration and reargument before the full commission solely with respect to the question of whether or not red cap service is a transportation service subject to provisions of the Interstate Commerce Act regarding the filing of tariffs.

Division 3, in a two-to-one decision, has held that the carrying of baggage by red caps and the terminal company's fee for it are subject to regulation by the commission and that the company must file a tariff covering its charge for that service in accordance with section 6(1) of the Interstate Commerce Act.

Railroads Directed to Haul Trainloads of Coal

Because of submarine activity along the Atlantic coast, the railroads will be directed insofar as practicable to transport coal in solid trains into the eastern seaboard region to insure the movement of a large tonnage which formerly went by water, according to an announcement on April 15 by Joseph B. Eastman, director of the Office of Defense Transportation.

Mr. Eastman's statement declared that much of the coal that formerly moved by rail to tidewater for transshipment by collier must now move the entire distance to Baltimore, Philadelphia, New York, and New England points by rail. He also said that the carriers will be directed to transport insofar as practicable coal in solid trains from points of origin to destinations in order to obviate terminal delays and to

T. P. & W. No Harbinger of Federal Control

Several days before the T. P. & W. situation came to a head, John Barriger, associate director of the ODT's railroad division, was out on the West Coast explaining that the ODT's *basic purpose is to prevent federal control of railroads during the present war.* He stated further that it was generally recognized in Washington that "in the case of the railroads, and industry generally, only private initiative and management can obtain maximum output . . . so imperatively needed to win the war."

Barely returned from his trip to the coast, Mr. Barriger was sent to Peoria to become federal manager of the T. P. & W.—a job which seemed, superficially at least, to contradict his understanding of government transportation policy, as expounded a few days previously. At the meeting of the N. I. T. League in Cincinnati this week Mr. Barriger explained this apparent paradox.

"Does federal control of the T. P. & W. have any deep implications?" he asked. "Was I mistaken in what I had said earlier, or was I misinformed, or had matters changed suddenly? I can assure you that what I said on the Pacific Coast as an officer of ODT was true and correct then and is now. The situation in Peoria does not change that in any way. There is no more or no less federal control of the T. P. & W. than there is of the Chicago & North Western, the Rock Island, the Frisco, or any railroad now in bankruptcy or receivership, or any of the five lines which have recently emerged from that process. I do not believe that any of you consider a railroad in bankruptcy or receivership as being under federal control, or that the court custody of a property for purposes of financial reorganization involves federal control, yet the United States government has as complete possession of such lines as it has of the T. P. & W.

"The circumstances surrounding the T. P. & W. are identical in principle to a receivership. A labor dispute was seriously interfering with the normal operation of this property. Evidence of this is found in its weekly carloading statements and revenues for the period of the strike. The labor troubles started in early December—and led to embargoes and had occasioned some interruption of normal services—although the strike itself did not occur until the 29th of that month. During December the National Mediation Board refused to certify the dispute to the President, recommending appointment of a fact finding board, because in its opinion a strike on the T. P. & W. did not 'threaten substantially to interrupt interstate commerce to a degree such as to deprive any section of the country of essential transportation service.'

"During December, even though the war was on, the successes of Japan had not yet created the threatened rubber shortage which later made the transportation problem such a serious one. Subsequently, as the Japanese advanced into the rubber producing areas of the Far East, the transportation situation changed materially for the worse, and the War Department later reported to the President that the interruption of service on the T. P. & W., which the National Mediation Board did not deem to be of national moment, was nevertheless so in its view of the changed transportation situation. It was that recommendation which lead to seizure, under executive order, after the National War Labor Board's efforts to induce the railroad to agree to arbitration of the labor problem had been unsuccessful."

Mr. Barriger then proceeded to assure his hearers that the taking over of the T. P. & W. did not constitute an "entering wedge" for federal control; that it did not evidence "incipient ambition" to extend such control to other carriers; and that there was no disposition on the part of the T. P. & W. federal management to make a "yardstick" out of it, endeavoring unfairly to secure a disproportionate amount of government traffic. Conversely, he asked that the T. P. & W. be not discriminated against in the routing of commercial traffic. The ODT wants to operate the road commercially, and it needs its fair share of commercial traffic in order to succeed at this goal.

obtain speedy movement with a minimum amount of railroad equipment.

Samuel S. Bruce, general traffic manager of the Koppers Company, has been appointed assistant director of the Division of Railway Transport in charge of coal movement and equipment. His duties, said Mr. Eastman, will involve efforts to accelerate loading and unloading of coal, to eliminate cross-hauling, and to minimize terminal delay as coal is moved through the eastern area.

Purchases—Correction

The Chesapeake & Ohio's purchases of materials, exclusive of fuel and new equipment, for the year 1941, amounting to $15,785,463, as reported in the *Railway Age* of March 28, was an increase of $938,149, or approximately 6.3 per cent, over the corresponding purchases in 1940, instead of a decline of $4,061,851, or 20.5 per cent.

Appointments to ODT Division of Local Transport

Thomas H. Nicholl, vice-president of the Cleveland Railway Company, has been appointed assistant director of the Office of Defense Transportation's Division of Local Transport. Frank H. Shepard, transportation consultant for the Westinghouse Electric & Manufacturing Company, has been appointed assistant to Director Guy A. Richardson of the Division.

Telegraph Merger Bill Is Introduced

Senator McFarland, Democrat of Arizona, has introduced in the Senate for himself and Senator White, Republican of Maine, S. 2445, a bill which would amend the Communications Act of 1934, to permit the consolidation or merger of the Western Union and Postal Telegraph companies.

Mexican Railways Cut Free Time to Increase Car Utilization

Free time for loading and unloading standard gage freight cars was cut from 36 hr. to 24 hr. by the National Railways of Mexico on April 1, in an effort to increase car utilization during the war. At the same time, the demurrage rate was set at 10 pesos (about $2) for the first 24 hr. after free time and at 30 pesos for each succeeding 24 hr.

Omaha Emergency Hospital Handles 160 Cases

An emergency room in the Omaha Union Station, which has been idle since the building was constructed and which was remodeled and refurnished in January for operation in connection with a Service Men's Center, treated 160 cases during March. Two-thirds of those treated were men in the armed forces. Treatments were principally for colds, headaches, sore throats, stomach disorders, removal of foreign bodies from eyes, treatment of boils, vaccinations and blisters.

Mexican Railway Employees Get Wage Increase—but Not 30 Per Cent

The demands of the Union of Railway Workers on the National Railways of Mexico which precipitated a strike, as reported in the *Railway Age* of March 21, page 624, were compromised on April 1 when a 10 per cent increase was made applicable to all employees and officers on the railways. Prior to the strike, the union had demanded an increase of 30 per cent for all employees, and the management had granted a 10 per cent increase to employees receiving less than 180 pesos (about $38) a month. The dispute was settled when the 10 per cent increase was extended to all employees receiving more than 180 pesos a month. This increase amounts to a further annual disbursement of 7,000,000 pesos for salaries which may be increased to 10,000,000 pesos when overtime, sick and vacation pay are figured at the new rate.

I.C.C. Again Files Rock Island Plan

A supplementary report setting forth in detail the Interstate Commerce Commission's findings on the reorganization plan previously approved for the Chicago, Rock Island & Pacific, was filed by the Commission in the district court at Chicago on April 13. The court sent the plan back to the I. C. C. for the supplemental report after the United States Circuit Court of Appeals, on December 4, returned the plan of the Chicago, Milwaukee, St. Paul & Pacific. The court will hold a hearing on the Rock Island plan within 10 days.

Club Meetings

The Indianapolis Car Inspection Association will hold its next meeting on May 4 at the Hotel Severin, Indianapolis, Ind., at 7 p. m.

The Toronto Railway Club will hold its next meeting on April 27, at which time George L. Long, historian of the Bell Telephone Company of Canada, Montreal, Que., will speak on "Your Voice as Others Hear It."

The Women's Traffic Club of Greater New York will hold its election of officers at the Park Central hotel, New York, on April 14.

Seatrain Per Diem Payments

The Interstate Commerce Commission has further postponed until June 1 the effective date of its order in the Nos. 25728 and 25878 proceedings involving per diem payments by Seatrain Lines, Inc., for use of railroad cars. The commission's action came in response to a request from the United States Court for the District of New Jersey.

As noted in the *Railway Age* of April 4, page 713, the railroads have challenged the commission's order in a suit filed March 26 in that court.

Court Clarifies Grandfather Clause Provision

In a further clarification of the grandfather clause of the Motor Carrier Act of 1935, the United States Supreme Court at its April 13 session held, in a six-to-three decision, that the discontinuance of operations by a motor carrier as a result of involuntary bankruptcy did not constitute interruption of service over which the company had no control, within the exemption proviso of the grandfather clause. The case involved the refusal of the Interstate Commerce Commission to grant a grandfather certificate to the Gregg Cartage & Storage Co. of Cleveland, Ohio.

Justice Douglas wrote a dissent in which he was joined by Justices Black and Byrnes. He objected strenuously to Justice Jackson's majority thesis that a company has control over its financial affairs to such an extent that it can prevent bankruptcy.

Denies Petition for "Clarification" of Passenger-Fare Order

The Interstate Commerce Commission has denied the petition of the Long Island, Staten Island Rapid Transit, and New York Central for a "clarification" of the Ex Parte 148 order covering the passenger-fare increases. As noted in the *Railway Age* of March 21, page 621, the petitioners sought to have the commission declare that it was the purpose and intention of the order "to require the applicants to increase their intrastate passenger fares, other than commutation, to conform to such increases in their interstate passenger fares as they might establish under said order."

C. St. P. M. & O. Trains Collide at Savage, Minn.

Five persons, including three passengers, a trainman and a news agent, were killed and 35 persons were injured when the Nightingale of the Chicago, St. Paul, Minneapolis & Omaha, bound from Omaha, Neb., to the Twin Cities, ran into the rear of the Mondamin, bound from Sioux City, Ia., to the Twin Cities, at Savage, Minn., on April 11. The Mondamin had stopped at Savage after an accident with an automobile and, according to preliminary reports, the Nightingale disregarded torpedoes and the warning of the flagman of the Mondamin. The first coach of this train, in which most of the casualties occurred, telescoped the baggage car ahead.

Eastman to Address Chamber of Commerce Meeting

The Chamber of Commerce of the United States has sent an invitation to those in the transportation and traffic fields asking them to attend the Transportation Session at the 30th annual meeting in Chicago on April 29. The principal address at the session, which will begin with a luncheon at 12:30, will be delivered by Joseph B. Eastman, director of the Office of Defense Transportation. At the conclusion of his address there will be discussion led by the following panel:

Arthur M. Hill, president, Atlantic Greyhound Corporation; M. R. Boylan, vice-president, Public Service Coordinated Transport; T. C. Burwell, vice-president, A. E. Staley Manufacturing Company; Alex. W. Dann, president, Union Barge Line Corporation; H. D. Horton, president, Horton Motor Lines; W. C. Kendall, chairman, Car Service Division, Association of American Railroads; Frank M. Kreml, director, Safety Division, International Association of Chiefs of Police; E. V. Rickenbacker, president, Eastern Air Lines; and Alvin W. Vogtle, president, National Association of Shippers Advisory Boards.

The invitation also states that those at-

tending are "cordially invited" to send in advance to the Chamber of Commerce any question which they would like to suggest for submission to the speaker or panel. There will also be opportunity for questions from the floor, the letter of invitation said.

Freight Car Loading

Loading of revenue freight for the week ended April 11 totaled 814,233 cars, the Association of American Railroads announced on April 16. This was a decrease of 14,657 cars, or 1.8 per cent, below the preceding week, but an increase of 134,425 cars, or 19.8 per cent, above the corresponding week in 1941 and an increase of 195,128 cars, or 31.5 per cent, above the same week in 1940.

As reported in last week's issue, revenue car loadings for the week ended April 4, totaled 828,890 cars, and the summary for that week, compiled by the Car Service Division, A. A. R. follows:

Revenue Freight Car Loading

For Week Ended Saturday, April 4

District	1942	1941	1940
Eastern	166,778	157,153	133,234
Allegheny	179,519	149,826	122,412
Pocahontas	53,906	24,770	41,257
Southern	131,374	108,808	98,766
Northwestern ..	118,305	86,676	71,245
Central Western	115,704	105,207	92,200
Southwestern ..	63,304	50,962	43,721
Total Western Districts	297,313	242,845	207,166
Total All Roads	828,890	683,402	602,835
Commodities			
Grain and grain products	35,330	35,405	30,108
Live stock	11,986	10,837	9,999
Coal	147,816	58,841	100,626
Coke	13,845	10,160	7,331
Forest products	48,415	38,682	31,640
Ore	55,044	18,238	10,375
Merchandise l.c.l.	139,798	162,942	149,766
Miscellaneous ..	376,656	348,297	262,990
April 4	828,890	683,402	602,835
March 28	804,746	793,803	628,921
March 21	796,640	769,984	620,375
March 14	799,356	759,607	619,388
March 7	770,697	742,617	620,596
Cumulative Total, 14 Weeks ...	10,981,375	10,070,387	8,773,365

In Canada.—Carloadings for the week ended April 4 totaled 57,455, as compared with 62,369 in the previous week and 58,840 in the corresponding week in 1941. The compilation is that of the Dominion Bureau of Statistics.

	Total Cars Loaded	Total Cars Rec'd from Connections
Total for Canada:		
Apr. 4, 1942	57,455	31,687
Mar. 28, 1942	62,369	34,083
Mar. 21, 1942	64,879	33,684
Apr. 5, 1941	58,840	31,316
Cumulative Totals for Canada:		
Apr. 4, 1942	854,750	445,539
Apr. 5, 1941	759,179	405,410
Apr. 6, 1940	654,181	340,001

Retirement Board Now Located in Chicago

Employees of the Railroad Retirement Board's bureau of wage and service records, first of the board's employees to be moved from Washington to Chicago, began work on April 8 in the recently purchased America Fore building in Chicago. A special train of 22 cars arrived on April 6 with office furniture and equipment. James G. Bingham, assistant manager of the Office of Decentralization Service, estimated that about 160 of the bureau's 275 employees are moving to Chicago. Replacements will be made from civil service lists.

Other bureaus of the board will move to Chicago as remodeling of their quarters is completed. The next to come, probably in about 10 days, will be the diversion of retirement claims, with 475 employees. Of the 1,700 persons employed by the board, it is estimated that 1,000 will move to Chicago.

Test Pendulum Cars

Approximately 150 railway officers and members of the Chicago Association of Commerce participated in a test run of the three new pendulum cars, owned by the Atchison, Topeka & Santa Fe; the Chicago, Burlington & Quincy and the Great Northern, respectively, on April 13. These cars were assembled, with two streamlined coaches of latest designs, into a train which was operated from Chicago to Galesburg, Ill., by the Burlington and returned over the Santa Fe. The run was a high-speed run throughout, approximating 85 miles an hour cruising speed and reaching a maximum of 105 miles an hour.

New Haven Publishes Annual Report for Employees

The March issue of "Along the Line," employees' publication of the New York, New Haven & Hartford, features—as heretofore—a pictorial annual report to employees, signed by the three trustees of the road. An introduction explains the reason for such a report by stating that in early days of small businesses the "company policy was as familiar to the Yankee worker . . . as were his own family affairs" and that it was to try to "bridge the gap" between small businesses and a large enterprise like the New Haven that the annual report number is published. The report consists largely of pictographs showing income-outgo; how the 1941 dollar was earned and distributed, chief items in freight and passenger traffic statistics and outstanding operating efficiency indices.

Plenty of Room in Miami

Stories of the extent to which Miami Beach hotels have been taken over by the military have been exaggerated in the popular mind—to the extent, perhaps, that prospective travelers to Florida have hesitated to proceed thence, lest they have to camp out at destination.

To counteract this traffic-depressing misconception, George L. Oliver, the Florida East Coast's general passenger agent, has issued an explanatory statement. "Various exaggerated reports," he said, "have been published which tend to give the impression that Miami and Miami Beach will have no room for visitors. This is essentially not the case. Although a number of hotels have been taken over by the government for an aviation training and replacement center, this will by no means utilize all existing accommodations or even a large percentage of them. Hotel rooms in Miami Beach alone total 100,000—not to mention thousands more in adjacent Miami.

"At present, it seems far from possible that any shortage of accommodations will develop during the coming summer, and even during next winter there should be ample space available for persons desiring to visit this area. The pressure of this military activity will make Miami and Miami Beach even more colorful and livelier than usual this summer."

"Share-Expense" Travel Brought Under Full Regulation

The Interstate Commerce Commission, Division 5, has found that its task of carrying out the Transportation Act of 1940's national transportation policy requires removal of the exemption of the casual, occasional, or reciprocal transportation of passengers by motor vehicle for compensation, as provided in section 203(b)(9) of the Interstate Commerce Act, to the extent necessary to make applicable all provisions of the act, to such transportation when sold or offered for sale, or provided, or procured or arranged for by any person who sells, offers for sale, provides, furnishes, contracts, or arranges for such transportation. The report and order, which becomes effective May 15, is in Ex Parte No. MC-35, the general investigation instituted by the commission upon petition of the National Bus Traffic Association.

Portland-Seattle Train Supplements "City of Portland" Service

The service of the streamliner "City of Portland" operated by the Chicago & North Western and the Union Pacific between Chicago and Portland, Ore., on a 39¾ hr. schedule, was extended to Seattle, Wash., and Tacoma on April 12 when a connecting streamlined train was placed in operation. The new train, containing the locomotive and cars of the original "City of Los Angeles" of the Union Pacific, consists of a Diesel-electric locomotive, a mail-baggage car, a dormitory-kitchen car, a diner lounge car, two sleeping cars, a coach-buffet car and a coach. The train will operate every sixth day, leaving Portland at 8:20 a. m., upon the arrival of the City of Portland, and reaching Seattle at 12:00 noon. It leaves Seattle at 2:30 p. m. on the same day and arrives at Portland at 6:10 p. m. to connect with the City of Portland, which departs at 6:30 p. m. Under the pooled service between these points, tickets of the Great Northern and the Northern Pacific will be honored on this train.

Loss and Damage Jumps 11.3 Per Cent

Freight loss and damage payments made by member railroads of the Freight Claim Division of the Association of American Railroads, amounted to $23,438,536 in 1941, compared with $21,059,149 in 1940, an increase of 11.3 per cent. Payments made by United States carriers amounted to $22,274,402 in 1941 and $20,151,562 in 1940, an increase of 10.5 per cent, while those made by Canadian carriers amounted to $1,164,134 in 1941 and $893,763 in 1940, an increase of 30.2 per cent. The payments made by United States carriers in 1941 amounted to 0.5 per cent of their freight revenue, while those made by the Canadian carriers amounted to 0.27 per cent of their freight revenue.

Of the causes, unlocated damage of freight and packages showed an increase of

$961,400, concealed damage $543,126 and train accidents $446,995, increases of 12.6, 14.9 and 54.6 per cent respectively. Unlocated damage of freight not in packages increased $399,527 and loss and damage due to freezing or heater failure, increased $313,720.

Payments on fresh fruits and melons continued to head the list with a total of $2,362,586, while payments on fresh vegetables ran second with a total of $1,981,298. Payments on new furniture amounted to $1,305,828.

A. S. M. E. Railroad Division Studies Material Needs

Three phases of the vital material problem which confronts the railways, namely, conservation, substitution and reclamation, will be analyzed and discussed at the railroad sessions of the semi-annual meeting of the American Society of Mechanical Engineers which are scheduled to be held Wednesday, June 10, 1942, at the Hotel Cleveland, Cleveland, Ohio. This meeting is part of the general three-day program of the society which will be held June 8-10, inclusive, and follows the semi-annual dinner on the evening of June 9.

Details of the program, sponsored by the Railroad Division of the Society, are as follows:

MORNING SESSION

Opening remarks by Joseph B. Eastman, director, Office Defense Transportation, Washington, D. C.

Paper on Conservation, by A. G. Hoppe, assistant mechanical engineer, Chicago, Milwaukee, St. Paul & Pacific.

Paper on Substitution, by C. B. Bryant, engineer of tests, Southern.

AFTERNOON SESSION

Remarks by Andrew Stevenson, chief, Transportation and Farm Equipment Branch, War Production Board, Washington, D. C.

Paper on Reclamation, by G. A. Goerner, general storekeeper, Chicago, Burlington & Quincy.

General discussion on all papers at the conclusion of Mr. Goerner's presentation.

It is anticipated that about 300 mechanical engineers and executives representing both the railroads and railway supply companies will be present at this meeting and participate in the discussion which is designed to throw additional light on the important material problems now confronting the railways.

Carriers "Stall" on Wage Demands Says Jewell

More than 40 railroads, mostly short lines, are taking advantage of the war situation and labor's "no-strike" pledge to "stall" on demands of workers for wage increases and vacations with pay, according to Bert M. Jewell, president of the American Federation of Labor, Railway Employees' Department of the Railway Labor Executives Association. These carriers, according to Mr. Jewell, are holding out against the 10-cent-an-hour pay boost and paid vacations negotiated last December following revised recommendations by President Roosevelt's Emergency Board for the whole railroad industry. Most of the railroads, he continued, signed agreements, but about 96 carriers, chiefly short lines and companies affiliated with the railroads, such as refrigerator car firms, failed to do so. Since then, Mr. Jewell said, 14 co-operating standard railroad labor organizations have negotiated agreements applying the increased wages and vacations on more than 60 of these carriers, but the rest are still holding back.

"The only relief now available for our people on these roads is to strike," he pointed out. "Since our nation is at war, we are naturally reluctant to take such a step. Knowing this, the holdout carriers are refusing to grant what all other railroads have agreed to.

"President Roosevelt," Mr. Jewell explained, "has been asked to consider the creation of machinery which would avoid the necessity of striking, or taking strike votes, but at the same time settle the disputes. The new machinery would also cover the cases of several additional roads which the unions have recently organized, or which were not originally involved in the December negotiations. In these instances, the disputes over wages and vacations would go through mediation before reaching the top machinery."

Railroads Facing Shortage of Labor

(*Continued from page 795*)

including those who have quit and those who have retired.

3. Utilizing all state and federal aids to improve apprentice and learner training methods, and speeding up apprentice training by agreement with labor.

4. Surveying situation on each railroad to determine possibilities of upgrading employees to more skilled positions and utilizing more skilled workers to instruct and guide semi-skilled workers.

5. Employing women wherever possible.

6. Making full use of governmental employment services.

7. Establishing a clearing-house by which the various railroads can exchange information on man power and self-help measures.

8. Organizing effective personnel management system for each carrier under appropriate supervision and direction.

Creation by the railroads of a permanent committee to study and act on the industry's manpower problems was also suggested.

In making public the results of the labor survey, which covered 139 roads employing 95 per cent of all railroad workers, Mr. Beyer said that the most acute shortages exist, or are anticipated, in occupations connected with maintenance of railroad equipment, including machinists, sheet-metal workers, electrical workers, and boilermakers. Shortages are also acute in some of the occupations involving the routing and movement of trains, particularly telegraphers, towermen, and train dispatchers. In occupations connected with actual movement of trains, the most severe shortages involve men qualified as yard brakemen and yard helpers.

Shortages already exist or are expected in the near future in other occupations throughout the railroad industry, Mr. Beyer said, and include chemists, engineers—civil, construction, electrical, mechanical, and signal—auditors, special instructors, chief timekeepers, and rate specialists. Among other occupations in which critical shortages are expected are welders, wrecking crane operators, electric power dispatchers, car men—carpenters and other skilled workers engaged in building and repairing cars—iron workers, and bridge and building carpenters.

The survey showed that over 62 per cent of the requests by the railroads for deferment of employees had been granted by local draft boards.

Commenting on the results of the survey which covered the 45-day period from January 1 to February 15, 1942, Mr. Beyer said:

"Shortages of manpower in the railroad industry exist principally in highly skilled occupations, many of which are also in heavy demand by other war industries. The armed forces likewise have need of fairly large numbers of such men for maintenance and operation of military machines.

"While many instances of existing personnel shortages were reported, in almost twice as many cases railroads reported that seniority lists were substantially exhausted as of February 15. This means that replacements, as well as men to fill new jobs created as a result of increased railroad activity, must be trained, and that the carriers must also draw upon retired men, men now employed in less essential industries, and men rejected by the armed forces but physically fit for railroad jobs. In addition, women must be used in place of men wherever possible."

The survey showed that the railroads were unable to fill nearly 1,600 machinist jobs during the first six weeks of 1942, Mr. Beyer said. Of the 139 railroads covered in the questionnaire survey, 67 roads, employing nearly 80 per cent of all railroad employees, reported that shortages of machinists had already been experienced. A total of 91 roads, employing over 91 per cent of all railroad employees, reported either that shortages of machinists already existed or were expected in the near future. Eighty-seven of these 91 roads reported that seniority lists for this occupation had been substantially exhausted, as of February 15. The roads were training 4,847 apprentices for jobs as machinists, or one apprentice for every nine journeymen.

Forty-seven roads, employing 75 per cent of all employees in the industry, reported that they had already experienced shortages of sheet-metal workers. Sixty-two railroads, employing nearly 86 per cent of all railroad employees, reported existing or expected shortages of workers in this trade. The ratio of apprentices to journeymen was one to twelve. Thirty-seven roads, employing about 71 per cent of all railroad workers, reported existing shortages of electrical workers, and 19 additional roads reported that shortages in this category were expected. Forty-nine railroads, employing nearly 70 per cent of all employees in the industry, reported shortages of boilermakers, and 16 other carriers reported that shortages of boilermakers were anticipated in the near future. Forty-three roads, employing over 70 per cent of all railroad workers, reported that they had already experienced shortages of telegraphers and towermen, and 24 additional roads said that shortages of employees in these categories were expected. Thirty-two roads reported existing shortages of yard brakemen and yard helpers, with 48 other roads expecting shortages in these classifications.

February Accident Statistics

The Interstate Commerce Commission on April 7 made public its Bureau of Statistics' preliminary summary of steam rail-

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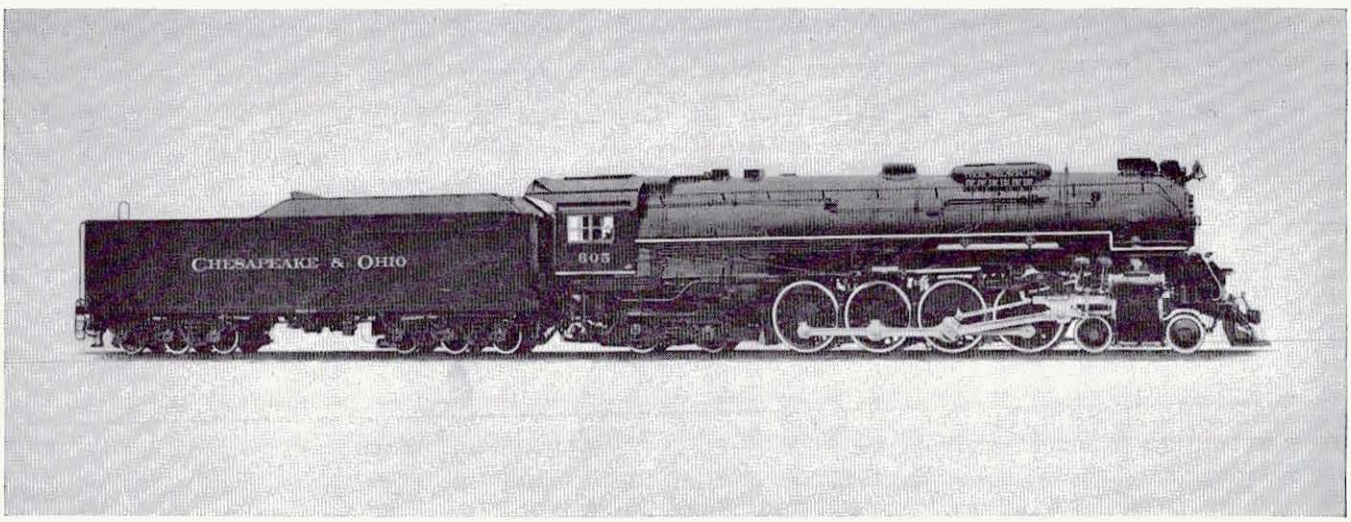
★ ★ ★ ★ TIME and TONNAGE ★ ★ ★ ★

are the important considerations



Maximum gross-ton-miles per-train-hour are becoming increasingly important as America's war effort slips into high gear. The only power that can meet today's demands for heavier loads moved at steadily reduced running time is . . . MODERN SUPER POWER.

Lima has pioneered in the construction of this type of steam power, and is prepared to build locomotives of the latest design to help you to . . . "KEEP 'EM ROLLING."

LIMA LOCOMOTIVE WORKS LIMA LOCOMOTIVE WORKS INCORPORATED INCORPORATED, LIMA, OHIO

way accidents for February and this year's first two months. The compilation, which is subject to revision, follows:

Item	Month of February 1942	Month of February 1941	2 mos. ended with Feb. 1942	2 mos. ended with Feb. 1941
Number of train accidents*	1,005	622	2,071	1,292
Number of casualties in train, train-service and nontrain accidents:				
Trespassers:				
Killed	115	95	231	208
Injured	96	107	201	223
Passengers on trains:				
(a) In train accidents*				
Killed	..	..	5	..
Injured	129	27	205	184
(b) In train-service accidents				
Killed	2	..	7	..
Injured	155	126	317	276
Travelers not on trains:				
Killed	..	1	1	1
Injured	58	89	125	163
Employees on duty:				
Killed	85	53	159	107
Injured	2,314	1,476	4,793	3,106
Oll other nontrespassers:**				
Killed	216	188	441	393
Injured	734	592	1,502	1,275
Total — All classes of persons:				
Killed	418	337	844	709
Injured	3,486	2,417	7,143	5,227

* Train accidents (mostly collisions and derailments) are distinguished from train-service accidents by the fact that the former cause damage of more than $150 to railway property.

** Casualties to "Other nontrespassers" happen chiefly at highway grade crossings. Total highway grade-crossing casualties *for all classes of persons, including both trespassers and nontrespassers,* were as follows:

Persons:				
Killed	198	173	408	366
Injured	567	450	1,173	937

McNear Asks U. S. to Cut Out Featherbed Rules in Interest of War

A request that featherbed rules be eliminated to demonstrate that "our government is really and seriously interested in the efficient and vigorous conduct of the war and that waste of man power will not be countenanced," was made of Joseph B. Eastman, director of the Office of Defense Transportation by George P. McNear, president of the Toledo, Peoria & Western on April 14, during a meeting of the O.D.T. and railroad representatives at Washington to discuss man power shortages. Mr. McNear's telegram is as follows: "Regarding your conference today to discuss the shortage of man power on the railroads, is not this the appropriate time to eliminate the featherbed rules of the train and engine employees and the gross waste of man power which results from such rules.

"As you know, our railroad was seized and taken away from us because we insisted upon rules which provided for efficient operation and better utilization of man power. Analysis of the T. P. & W. showed 50 men were required in train and engine service to perform our operations under the rules we put in effect last December as compared with 83 men which would be required to do the same work under the featherbed rules demanded by the brotherhoods.

"Unfortunately, immediately after our railroad was seized, your assistant, John Barriger, terminated our rules without even giving them a trial. He stated he was under orders from Washington.

"You, Mr. Eastman, are now in full and absolute charge of our railroad, and if you had the power to terminate our efficient rules you likewise have the power to restore them.

"With the serious situation now confronting us won't you please at least give our rules a trial, and give those interested and also those who are making daily sacrifices in this war effort a demonstration that our government is really and seriously interested in the efficient and vigorous conduct of the war, and that waste of man power will not be countenanced?"

McNear and N. W. L. B. Still Corresponding About Arbitration

George P. McNear, Jr., president of the Toledo, Peoria & Western, and the National War Labor Board continued to exchange telegrams this week on arbitration of the labor dispute which caused the government to seize the railroad. On April 3, the Board notified Mr. McNear that Justice Benjamin C. Hilliard of the Supreme Court of Colorado had been appointed arbitrator and stated that final settlement of the controversy will depend "upon your compliance with the President's order that the dispute be arbitrated." In his reply on the following day, Mr. McNear sought a clarification of the legal aspects of the case by asking:

"Does this wire mean that your Board is now proposing a fair form of arbitration such as we expressed willingness to consider at the morning session of the hearing before your Board on February 27, and does this wire also mean that by your Board's latest action, the order which your Board entered late in the afternoon on February 27, requiring us to arbitrate under section 8 of the Railway Labor Act and under the auspices of the National Mediation Board, is now definitely revoked and abandoned and of no further force and effect."

After five days, the Board, on April 9, replied as follows:

"I call your attention to the fact that the executive order of March 21, 1942, reads in part, 'The Director of the Office of Defense Transportation shall manage or arrange for the management of said railroad under such terms and conditions of employment as he deems advisable and proper, pending such determination of the existing labor dispute as may be approved by the National War Labor Board'. Your railroad was seized under said executive order because of your defiance of your government in time of war, manifested by your refusal to arbitrate the then-existing labor dispute. The executive order of March 21 imposes upon the War Labor Board the obligation to finally settle the dispute. It is the unanimous decision of the War Labor Board that under the terms of the executive order you must be considered as remaining in defiance of your government until such time as you do arbitrate the dispute. In accordance with its powers, the National War Labor Board has appointed Judge Hilliard of the Colorado Supreme Court to stand by ready and willing to arbitrate the dispute in accordance with the procedure contemplated by section 8 of the Railway Labor Act, but under the auspices of the National War Labor Board provided you agree without delay to arbitrate the dispute.

"If you fail to notify the War Labor Board immediately that you will arbitrate the dispute as ordered by the National War Labor Board, the Board will proceed without delay to take such steps as are necessary to determine the merits of the dispute ex parte. In answer to questions contained in your telegram, please be advised that the Board is not revoking or abandoning its order of February 27. The Board is proceeding in accordance with that order and in accordance with the obligation imposed upon it by the executive order of March 21, seizing your railroad. The only change in circumstances is the seizure of your railroad under an executive order which now places the final responsibility for the determination of the labor dispute upon the National War Labor Board. The other question in your letter of April 4, is so worded that it constitutes a clear misrepresentation of fact. At no time at the hearing of February 27 did you express a willingness to arbitrate the dispute."

On April 11, Mr. McNear wired the board:

"It is still our most earnest desire to render every possible aid in the efficient prosecution of the war, especially without waste of manpower. As to a fair arbitration, please refer to nine separate pages throughout the 37-page verbatim transcript of the morning session of the hearing before your Board on February 27, when we repeatedly expressed our willingness for a fair arbitration. These expressions were repeated in our letters to your Board on March 2 and 14 and to President Roosevelt on March 19. At present, I am defending myself in the United States District Court in a case brought by our government against me and others at the insistence of the railroad brotherhoods. I can do nothing further about your wire until I am released from that case."

T. P. & W. Officers Answer Charges of Violating Labor Act

Reply to charges that they had violated the Railway Labor Act by interfering with organizing activities of the Brotherhood of Railroad Trainmen and the Brotherhood of Locomotive Firemen and Enginemen in 1940, was begun by George P. McNear, Jr., president of the Toledo, Peoria & Western; H. H. Best, superintendent, and Bruce Gifford, trainmaster, in the district court at Peoria, Ill., on April 15. The defense plans to disprove testimony of witnesses for the government to the effect that the superintendent and the trainmaster, who were under the direction of Mr. McNear, coerced and influenced employees to dissuade them from joining the unions. The defendants will also contend that the charge was filed to "smear" Mr. McNear during the recent strike and that he never talked to employees about union affiliations.

A total of 40 witnesses were called by the federal government in the presentation of its evidence. These witnesses testified that threats to reduce seniority had been made and supported the government's contention that the railroad deliberately reinstated former employees before the 1940 election, to intimidate employees in voting for the unions as bargaining agents. One of the witnesses stated that Mr. McNear, prior to the election in 1940, threatened to "scrap the railroad and sell it for junk" rather than sign a contract with the Brotherhood of Railroad Trainmen.

Attempt by the district attorney on April 7, to disclose the ownership of the T. P. & W., the Prairie Schooner Corporation and the Railroad Securities Corporation, holding companies, caused a clash between the district attorney and counsel for Mr. McNear, when the district attorney endeavored to subpoena the books of the company. In the absence of the jury, counsel argued the materiality of the records and ownership in this case and Mr. McNear offered to file a statement showing that he owned all but 15 per cent of the stock of the present holding company. His counsel contended that the ownership of this 15 per cent was of no consequence in this case. The court later upheld Mr. McNear and after having impounded records brought to the court by one of the directors of the Railroad Securities Corporation ruled that the company did not have to make its records available to the district attorney until ownership became material to the case.

On the same day, one of the local newspapers ignored the request made by Judge Briggle, that the details of this argument be withheld to eliminate any possibility of prejudicing the jury, and published the details. As a result, reporters for this paper were barred from the court room for the balance of the trial.

Soon after this action, Judge Briggle ordered D. G. Newdigate, general chairman

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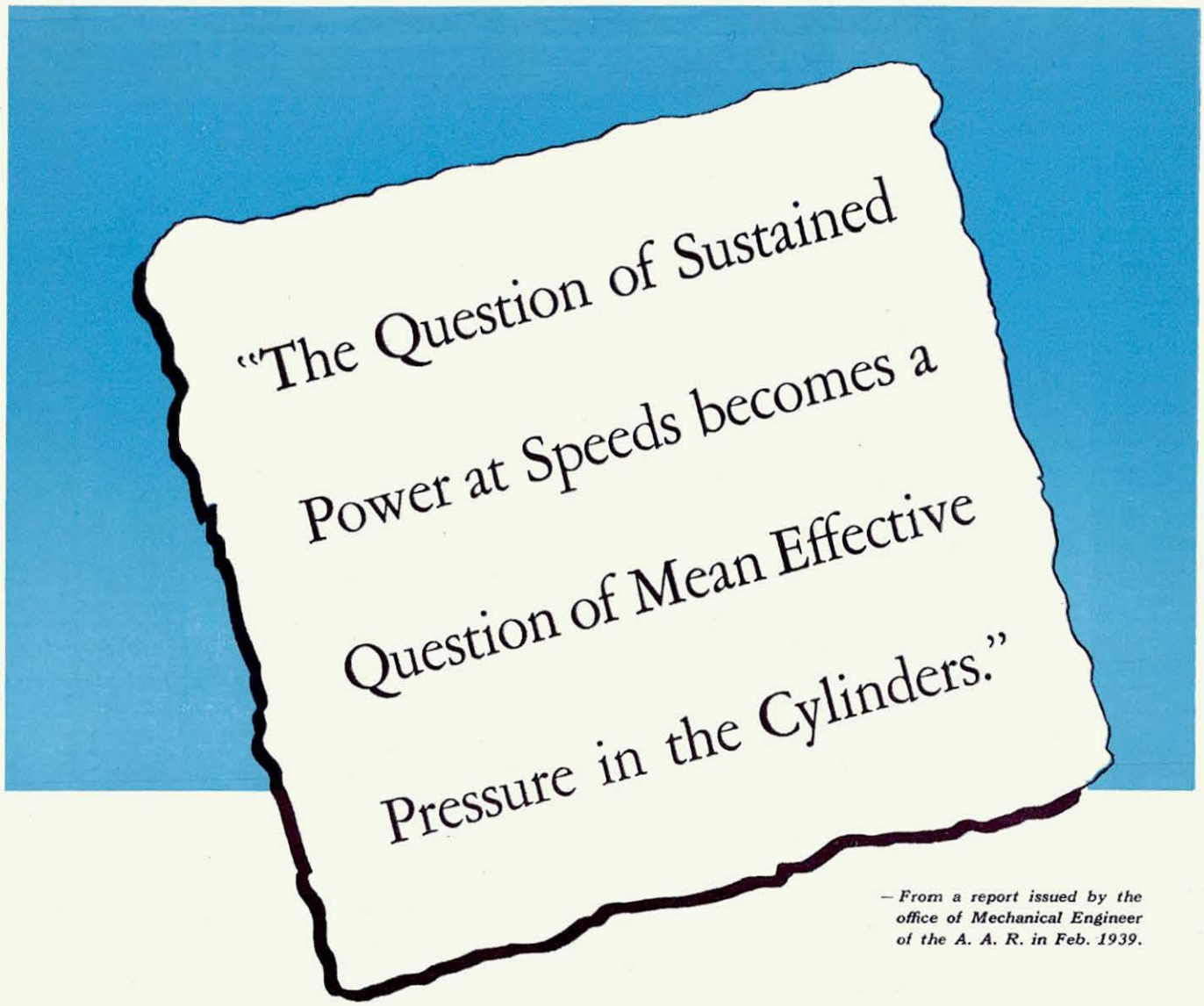

— From a report issued by the office of Mechanical Engineer of the A. A. R. in Feb. 1939.

THE FRANKLIN SYSTEM OF Steam Distribution

Sustained power at speeds has long been the goal of steam locomotive design.

The Franklin System of Steam Distribution opens new horizons for the steam locomotive by enabling it to produce 30 to 40% more horsepower through the development of maximum mean effective pressure.

This is made possible by:

1. Separation of valve events, so that admission, cut-off, release and compression are independently controlled.
2. Larger inlet and exhaust passages and improved steam flow.
3. Reduced cylinder clearance volume.
4. Increased mechanical efficiency, obtained by reduced weight of moving masses, reduced friction and elimination of carbonization.

FRANKLIN RAILWAY SUPPLY COMPANY, INC. NEW YORK CHICAGO

In Canada: FRANKLIN RAILWAY SUPPLY COMPANY, LIMITED, MONTREAL

of the Brotherhood of Railroad Trainmen, to stay out of the court building until he was called to the witness stand. According to reports, he held open a door connecting the court room with the waiting room for witnesses so that those in the latter room could hear the testimony that was being given. Newdigate was convicted of conspiracy to dynamite a T. P. & W. bridge and on April 9 was indicted on 12 counts. A second indictment charged him with carrying concealed firearms.

Harrison Assails ODT Order on L. C. L. Minimum Loads

George M. Harrison, president of the Brotherhood of Railway Clerks, has written a letter assailing the recently-issued Office of Defense Transportation General Order No. 1 which fixes minimum weight limits on loadings of l. c. l. cars. Mr. Harrison sent his letter to all subordinate officers in his Brotherhood, and to leaders of other railroad labor organizations.

As a result of the order, he asserted, "truck lines and forwarders will get the traffic. It will probably cause many consolidations by railroads of handling and forwarding this class of traffic. It is likely also to result in serious and widespread unemployment and dislocation of railroad employees in our class of service, and many others." As reported in the April 14 issue of "Labor," Mr. Harrison also declared that the order "came as a bombshell," no representative of labor having been consulted in its preparation, "though its effect on workers is far-reaching."

"Protections set up by Congress in the Transportation Act of 1940 against consolidation, pooling and other joint actions, except on authority of the Interstate Commerce Commission, are swept aside," Mr. Harrison went on. "Benefits and protections provided by Congress for the rights and interests of employees have apparently been disregarded." He also contended that the order might well prove a handicap to defense, if it diverts traffic to motor carriers in these times of rubber shortage. Since he finds "no shortage of railroad labor nor any congestion of operations," Mr. Harrison asked his general chairmen to make a nationwide survey of the effects.

Grain Meetings Scheduled

This year a system of meetings between government men, shippers, growers and railways will again be carried out to consider the transportation and storage of grain. These meetings are the basis for forming committees for disseminating information on the subject of grain storage at the various key points. Such meetings were held in St. Louis on April 6; Chicago on April 7; Kansas City, Mo., on April 8; Enid, Okla., on April 10; Amarillo, Texas, on April 11; San Francisco, Cal., on April 15; Portland, Ore., on April 17; and Seattle, Wash., on April 18. Further meetings are scheduled for the Hotel Ben Lomond, Ogden, Utah, at 2:30 p. m., on April 20; at the Fontenelle Hotel, Omaha, Neb., at 10 a. m. on April 22 and at the Nicollet Hotel, Minneapolis, Minn., at 10 a. m. on April 23. Similar meetings will be held at Indianapolis, Ind., Columbus, Ohio, Buffalo, N. Y., Philadelphia, Pa., and Baltimore, Md., on dates to be announced later.

Equipment and Supplies

LOCOMOTIVES

THE LAURINBURG & SOUTHERN has ordered one 44-ton Diesel-electric switching locomotive from the General Electric Company.

THE BESSEMER & LAKE ERIE is reported to have purchased seven steam locomotives, including five of 2-10-4 wheel arrangement from the Baldwin Locomotive Works and two of 0-8-0 wheel arrangement from the American Locomotive Company. The inquiry for this equipment was reported in the *Railway Age* of April 4.

FREIGHT CARS

THE ELGIN, JOLIET & EASTERN is reported to be considering the acquisition of new freight cars.

THE BALTIMORE & OHIO has placed an order for 25 hopper cars of 50 tons' capacity with the Bethlehem Steel Company. These are in addition to 1,000 cars of the same type placed with this company in February (*Railway Age*, February 21).

THE ILLINOIS CENTRAL will order 1,000 hopper cars from the Pullman-Standard Car Manufacturing Company upon approval of the War Production Board. Inquiry for this equipment was reported in the *Railway Age* of April 4.

Katy Rebuilding Program

At a meeting of stockholders of the Missouri-Kansas-Texas at St. Louis, Mo., on April 10, Matthew S. Sloan, chairman of the board, announced that the railroad has been authorized to begin work, which, he said, will result in a "completely reconstructed" railroad. The program includes the laying of new rails on 150 miles of line, heavy ballasting and resurfacing of several hundred miles of track, and an increase in shop forces for rebuilding rolling stock.

WPB Order Will Halt Medium and Heavy Truck Production

All production of medium and heavy trucks for civilian use will be discontinued after present quotas have been completed, the War Production Board has ordered. The stop-production order applies to trucks weighing 9,000 lb. or more, and to so-called off-the-highway vehicles, used principally in construction and mining operations. Production of light trucks had been halted in a previous order.

Under the present order, producers of medium trucks (9,000 lb. to 16,000 lb.) will have until April 30 to complete production on existing quotas; producers of heavy trucks (16,000 lb. or more) will have until May 31. Trucks thus produced will be rationed under the plan now being administered through the joint facilities of WPB and the Office of Defense Transportation.

Meanwhile, the WPB announcement points out that "an A-3 preference rating for materials going into the production of medium and heavy and off-the-highway trucks will continue to be made available under Limited Preference Rating Order P-54."

Equipment Installed and On Order

Class I railroads had 930 new locomotives on order on April 1, the Association of American Railroads announced on April 18. Of that number 426 were steam and 504 were electric and Diesel-electric.

On March 1, this year, they had 651 new locomotives on order which included 300 steam and 351 electric and Diesel-electric. Locomotives on order on April 1, 1941, totaled 335, of which 166 were steam and 169 were electric and Diesel-electric.

Railroads in the first three months of 1942 installed 179 new locomotives of which 78 were steam and 101 were electric and Diesel-electric. In the same period in 1941, they put in service 123 which included 27 steam and 96 electric and Diesel-electric.

Class I roads put in service 9,858 new freight cars in March, which brought to 27,263 the total number installed in the first three months of this year, there having been 9,262 in February and 8,143 in January. In the same period last year the railroads put 18,464 new freight cars in service.

Of the total number installed in the three months' period this year, there were 18,714 box, 7,664 coal, 205 refrigerator, 574 flat, and 106 miscellaneous freight cars.

New freight cars on order on April 1, totaled 69,515 compared with 70,602 on March 1 and 42,335 on April 1, 1941. Class I roads had on order on April 1 this year 34,488 box, 29,431 coal, 3,135 flat, 1,199 refrigerator, 300 stock, and 962 miscellaneous freight cars.

Contract Car Builders Deliver 7,745 Cars in March

The number of freight cars delivered for domestic service by contract car builders only during March totaled 7,745. Although this represents a slight increase over the 7,634 delivered in February, construction of cars in seven of the reporting plants decreased during March, and toward the close of the month, the erection tracks of at least five plants were reported to be shut down.

The building program of 36,000 cars for the three months, February-April, inclusive, for which the WPB granted priorities, called for delivery of about 9,500 cars by contract car builders in March, with an additional 1,500 scheduled for completion in the railroads' own shops.

Backlog of unfilled orders on car builders' books March 31 totaled 55,898 cars, of which 47,297 were for domestic service. Domestic railroad orders comprised 43,403 cars of the total, with the balance including cars for private car lines, industrial companies, export, lease-lend and United States Government departments. A comparison of domestic freight car deliveries

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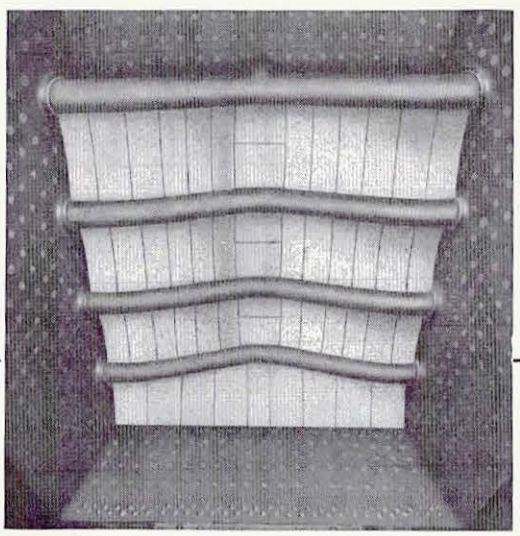
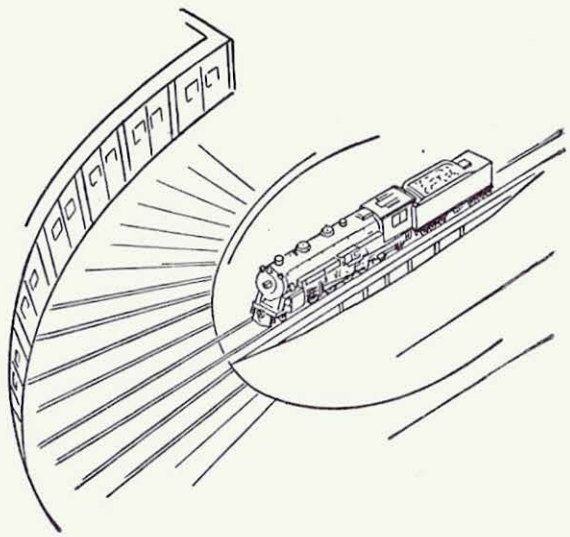
SECURITY ARCH BRICK IS THE FOUNDATION

of an effective economical brick arch





There's More to SECURITY ARCHES *Than Just Brick*

There is a lot to the Security Arch before it goes into the firebox.

Much of its success is due to the brick.

When we took up the development of the Security Sectional Arch we attacked the brick problem first.

Control of materials and processes in every step in the manufacture is the foundation of arch brick performance.

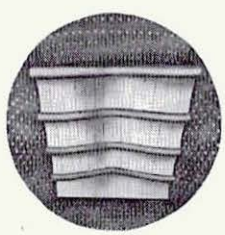
Such brick cannot be made in every brick yard.

The Security Arch gives economical service.

The manufacturer of the brick is one of the reasons.

HARBISON-WALKER REFRACTORIES CO.

Refractory Specialists



AMERICAN ARCH CO.
INCORPORATED
60 EAST 42nd STREET, NEW YORK, N. Y.
Locomotive Combustion Specialists

and undelivered orders of contract car builders for the period, January 1, 1941-March 31, 1942, follows:

1941	Number Delivered	Per Cent of Rated Operating Capacity	Backlog of Unfilled Orders
January	4,993	33.9	34,384
February	4,057	27.6	32,991
March	4,987	33.9	37,359
April	5,416	36.8	44,707
May	4,547	30.9	59,104
June	5,137	34.9	69,355
July	5,321	36.1	70,330
August	3,856	26.2	69,307
September	5,044	34.3	65,230
October	6,620	45.0	57,193
November	6,023	40.9	54,142
December	7,057	47.9	52,773
Total, 1941	63,058	35.7	
1942			
January	6,240	42.4	51,219
February	7,634	51.8	50,580
March	7,745	58.1	47,297
Total, three Mos., 1942	21,619	50.5	

WPB's Equipment Program

The Railroad Industry Advisory Committee was scheduled to meet in Washington on April 16 with Andrew Stevenson, chief of the War Production Board's Transportation Branch, for the purpose of working out arrangements for building the cars and locomotives authorized in the 1942 program announced by WPB last week. As noted in the *Railway Age* of April 11, page 753, that program authorizes the construction of 18,000 freight cars and 300 locomotives in addition to the equipment contemplated in production schedules running to May 1 which were approved in January by the former Supply Priorities and Allocations Board.

The SPAB program authorized continued production on 926 locomotives, and undertook to make available materials for the construction during February, March and April of 36,000 freight cars, in addition to the 9,000 which were expected to be built in January. Actually, the January output was 8,143 cars. Thus the car program for the 1942 calendar year adds up to 62,143 cars, i.e., January's 8,143 plus SPAB's 36,000 plus the 18,000 authorized last week. The locomotive total is 1,226.

No official comment has come from the railroads on what is generally regarded as the inadequate number of freight cars authorized. Meanwhile, Director Eastman of the Office of Defense Transportation has spoken up, making it plain that he is going to continue his efforts to have the WPB quotas raised. Addressing last week's Philadelphia, Pa., meeting of the Atlantic States Shippers' Advisory Board, he expressed his hope that there would be "modifications," adding that "conversations will continue." Insofar as could be learned this week, there is as yet no new presentation before WPB's Transportation Branch.

In discussing the effect of the WPB action on their equipment programs, railroad men are inclined to build up their twelve-months figures on an October-to-October basis. The program running from October 1, 1941, until October 1, 1942, which was developed during the latter part of last year, contemplated the acquisition of 113,594 freight cars. Under that program 24,793 cars were installed in service during October, November and December, 1941. Assuming that the 62,143 cars to be made available in 1942 will be delivered by next October, the October-to-October total becomes 86,936 cars or 26,658 fewer than the 113,594 which the carriers hoped to get.

Moreover, it has been pointed out that the WPB program announced last week contemplates the construction of "limited number of tank cars." No definite figure as to the number of tanks to be built has been announced, but they will have to come out of the 18,000 total, thus cutting down the number of cars going to the railroads. It is anticipated that any tank cars authorized (and figures of 2,000 to 4,000 have been mentioned) would be acquired by private cars lines which now own most of the tank cars in service.

As noted in last week's issue, the WPB limitation orders of April 4 took control of the production and delivery of cars and locomotives. At that time, 19,000 cars remained to be delivered under the program authorized by SPAB. Those 19,000 and the 18,000 others now authorized became subject to rationing by the Transportation Branch, "acting upon recommendations of the Office of Defense Transportation." In framing its recommendations in that connection as well as those with respect to types of cars to be produced, ODT is expected to be guided by advices received from the Car Service Division of the Association of American Railroads. The C. S. D. is understood to be now at work on studies of what types should be built and what roads should receive cars under WPB's 18,000-car program. As noted above, the 19,000 cars undelivered under SPAB's program are also subject to rationing; but sseemingly for the present at least they will continue to be delivered in accordance with schedules in effect prior to the freezing order.

ODT Develops Ersatz Bus

What the Office of Defense Transportation thinks may be "one answer to the problem of transporting hundreds of thousands of war workers from central points in cities to outlying industrial plants" is a simplified type of trailer bus "made almost entirely of non-critical materials." The trailer, which embodies an application of a conventional design steel frame with a plywood and masonite superstructure, has a maximum capacity of 141 persons; it is hauled by a 1½-ton tractor.

The new vehicle was inspected in Washington on April 13 by Director Eastman and other ODT officials, and representatives of the War Production Board. It had just completed a 30-hour trip from the Middle West, where the chassis was built by the Evans Iron Works, South Bend, Ind.; the body by Schult Trailers, Inc., Elkhart, and the trailer truck by the Clark Equipment Company, Battle Creek, Mich.

The trailer, the ODT announcement said, was originally conceived by a committee representing ODT, WPB, and the Army and Navy Munitions Board. The design was developed by Frank H. Shepard, special assistant to Guy A. Richardson, director of ODT's Division of Local Transport. The capacity load of 141 passengers would be carried with 87 in fixed seats, 24 in drop seats, and 30 standing. The trailer is 45 ft. long and weighs 12,000 lb., "as compared with 17,000 lb. for a standard type 40-passenger city bus."

The ODT announcement emphasized that the trailer is intended primarily as a "stop-gap" vehicle to serve areas "where no other public transportation facilities are available and where workers would otherwise depend on private automobiles as long as these remained available." Assuming an average load of two workers per private automobile, ODT calculates that the trailer bus "would carry on 14 tires a passenger load equivalent to that which would otherwise be carried in 70 automobiles, using 280 tires." It is estimated that production at the rate of about 1,000 trailers a month could be begun within 90 days, ODT said.

Priorities and Prices

Following is a summary of announcements and actions taken by the War Production Board and the Office of Price Administration since March 1 that are of interest to railroads in purchasing materials, supplies and equipment, the most important of which were reviewed from week to week in *Railway Age*.

Boiler Fixtures—Metal jackets, fusible plugs and tri-cocks for low pressure heating boilers may not be obtained from manufacturers after June 1, according to Limitation Order L-42 issued March 7.

Canvas—Order M-21, issued February 28, restricting the use of cotton duck after March 1, was clarified on March 6. This material is no longer available without priority ratings better than A-2, must be specially applied for and may not be used to replenish inventories. Form PD-3 must be used to obtain materials for authorized uses where no extension of the rating is needed, and Form PD-3a where the rating is extended, while manufacturers use Form PD-329 for purchases not listed in the order. The list of 75 authorized products includes air brake and signal hose of certain specifications for railroads.

Civilian construction—Construction projects not essential to the war effort were halted by Conservation Order L-41 issued April 9. Special permission is required for new industrial utility projects to cost $5,000 or more, whether publically or privately financed. Expenditures for essential repairs and maintenance are excepted from the order.

Brushes—Conservation of the supply of bristle brushes and their care by painters and other users was requested on March 12 to meet the decline of imports of bristles for their manufacture.

Fuel oil—Effective March 14, new installations of fuel oil burning equipment are prohibited in 17 eastern states, the District of Columbia and the states of Oregon and Washington unless specially authorized, and fuel oil consumers in these states must utilize available facilities using coal or wood, according to Order L-56 issued to conserve fuel oil in coastal areas. After April 16, deliveries of gasoline to service stations and bulk consumers in these areas will be cut from 80 per cent of the average deliveries of December, January and February to 66⅔ per cent.

Gas, liquefied—Order L-86, effective April 8, prohibits installations of equipment for using butane, propane and other liquefied petroleum gases but does not prohibit materials for repairing existing equipment. Propane equipment is used in some air conditioning operations on railroads.

Incandescent lamps—Reduction of the number of sizes of incandescent light bulbs to save critical materials was discussed at a meeting of the lamp industry advisory committee on March 6. There are now 2500 different sizes of incandescent

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The newer achievements in motive power as well as stationary power plants further emphasize dependence upon scientifically coordinated units for establishment of higher performance standards.

COORDINATED for *Higher* Locomotive Efficiency

BALANCED BOILERS
Ample grate and combustion areas and maximum evaporating surface within specified limits

SMALL-FLUE SUPERHEATERS
The Elesco design provides maximum superheating surface and maximum free steam area

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Elesco Exhaust Steam Injectors provide the highest heat recovery per unit of weight and cost

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bulbs and it was suggested that the number of sizes might be reduced to approximately 1000 and that bulbs of 110, 115 and 125 volts would be sufficient for all needs.

Lift trucks—A two-months' extension of Preference Rating Order P-40, making available an A-1-g rating for materials going into the manufacture of industrial lift trucks and their repair, was announced March 7. The existing order expired March 10 and the time has been extended to May 10 to insure an adequate supply of lift trucks for handling war materials.

Highway trucks—Rationing of new automotive trucks, truck-tractors and trailers became effective March 9 under Order M-100 and will be administered by WPB and ODT. Civilian applications must be made to local allocation offices of the Bureau of Motor Carriers on Form PD-310. If approved, the application goes to the Washington office of the ODT and thence to WPB for a certificate of transfer. Separate applications must be filed for each vehicle.

Machine tools—Order P-77, covering materials for rebuilding machine tools, was extended on April 1 for one month until machine tool builders could adjust their operations to use the Production Requirements Plan of obtaining materials. Bulletin WPB 440, issued March 6, requested owners of vital machine tools to make them available for sale, machine tools working less than 120 hours a week being considered partially idle.

Office equipment—Order L-13-a, issued April 2, ordered the virtual discontinuance of the production of metal office furniture after May 31. The order requires the immediate discontinuance of the manufacture or assembly of insulated equipment not covered by ratings higher than A-2, reduces by 50 per cent the amount of steel for metal shelving up to May 31 and reduces by 40 per cent the average monthly steel consumption for metal filing cabinets.

Office machines—Limitation Order L-54, issued March 6, prohibited any deliveries of new typewriters without permission of the director of industry operations and restricted deliveries of used typewriters to deliveries for repair and authorized OPA to ration the sale, transfer and other disposition of used typewriters and limited quantities of new typewriters. The purchase, rental and sale of 13 other classes of new office machines were halted by Order L-54b, effective March 14, except to holders of ratings of A-9 or higher issued on Form PD-1a or PD-3a certificates. The list includes bookkeeping machines, billing machines, adding machines, calculators, punch card machines and duplicating and dictating equipment.

Office supplies—Curtailment in the use of iron and steel for making metal office supplies was ordered on March 29, Order L-73 permitting the production of wire staples at the same rate as in 1940 but reducing by rates of from 20 per cent to 50 per cent the manufacture of almost all other office supplies of metal.

Molybdenum—Order M-110, effective March 18, places the production and distribution of molybdenum under complete allocation and requires consumers to file special applications for all quantities in excess of 50 lb. per month.

Pig iron—Order M-17, governing the distribution of pig iron, as amended March 28, subjects pig iron to complete allocation and requires buyers to fill out Forms PD-67 by the fifth day of each month previous to the month of purchase and to file reports on Form PD-70 showing the quantities on hand and consumed.

Progress reports—All industries were notified on March 10 to begin sending monthly reports to WPB on their degree of conversion to war work, the reports to show the principal classes of products produced during the previous month for war and civilian use, the unfilled orders, the quantities of machine tools and other details to facilitate conversion activities.

Copper—All stocks of copper screening, including uncut rolls in the hands of retailers, were frozen on April 9 by an amendment to Order M-9-c. The new order forbids the delivery, installation or cutting of any copper screening except for certain government agencies or as specifically authorized by WPB.

Rubber—Order M-15-d, controlling the use of rubber as amended March 30, reduces the rubber content in more than 50 products and eliminates the use of rubber in 20 products. The amount of rubber permissible in railroad hose was reduced from 125 per cent of the average monthly consumption previous to March, 1941, to 100 per cent. Rubber in storage battery parts was reduced from 125 per cent to 80 per cent. Rubber packing was reduced from 100 to 80 per cent and special authority must be obtained to use new rubber in conveyor and transmission belts.

Steel plates—Allocations of steel plates, originally provided for in General Allocation Order No. 1, were formalized by Order M-21-c issued March 9. Consumers must now prepare monthly reports of their requirements on Form PD-298, filing copies with the producers and WPB, and monthly reports of inventories and consumption must be prepared on Form PD-299 for WPB. Only orders for steel plates with ratings of A-10 or higher are recognized. Manufacturers of steel were notified on March 10 that defense orders must be produced and shipped in proper sequence of preference ratings, regardless of the products involved. On March 24, consumers of steel plates were requested to follow a list of instructions in making all orders for steel plates to increase the quantities of plates available from strip mills. The new specifications cover width, gage, length, tonnage, markings and edges. On March 26, an appeal was made to consumers to forego all but the most urgent requirements of steel plates, present demand running 50 per cent above the producing capacity.

Priorities in force—WPB has prepared an alphabetical list of all priorities, orders and regulations issued up to January 30 with supplements bringing the compilation up to date. The priorities are listed numerically and also by subjects and show the number of the order, the proper priority forms, the date of each order, the date each order became operative or was revised, the expiration date and the priority rating used.

Prices

The Price Control Act gives OPA authority to establish maximum prices and to freeze prices for not more than 60 days pending investigation. The price administrator may buy, sell, store or use commodities to obtain the maximum production of materials and pay subsidies. Dealers may appeal to a special emergency court. Violations are subject to fine, injunction and enforcement by licenses. Following the bill's enactment, OPA announced that all prices issued since April 11, 1941, were to remain in effect. These prices were contained in 105 price schedules. Price rulings over materials of interest to railroads since March 1 follow:

Coal, bituminous—Arrangements between the Bituminous Coal Division of the Department of the Interior and OPA to co-operate in preventing increases in coal prices were announced March 15, the Bituminous Coal Division undertaking to hold hearings, conferences and make recommendations to OPA. On March 26, wholesale and retail coal dealers were authorized to add to their prices for coal and domestic coke increases resulting from advances in freight rates amounting to 3 cents a ton where the previous rate was $1.00 a ton or less and 5 cents a ton where the freight rate was more than $1.00. Previous rulings of OPA held prices at the levels prevailing in December, 1941.

Coal, anthracite—Regulation 112, effective April 1, fixes producer's prices of Pennsylvania anthracite at the levels of the period from October 1 to 15, 1941, and requires the customary seasonal discounts during April to July. Long-term contracts which stipulate that the price shall be the OPA maximum price in effect as of the date of delivery are allowed by Amendment No. 1 to Price Regulation 112 issued April 9.

Fuel oil—Price Schedule 88, as amended March 26, authorized oil companies in 17 eastern and southern states and the District of Columbia to charge ½ cent more a gal. of gasoline, 0.4 cent a gal. more for kerosene and 20 cents a bbl. more for heavy fuel oils to cover higher costs resulting from using railroad tank cars. An increase of 0.3 cent a gal. of gasoline had previously been authorized in the same area on January 21. Maximum prices of crude oil produced in Pennsylvania were raised 25 cents a bbl., effective March 25, and a second advance of 25 cents was assured when production reaches 85,000 bbl. per day over a three-month's period.

Auto tires—Maximum prices at which used tires and tubes of each size and degree of wear may be sold for passenger cars and trucks became effective March 16. The order prohibits extras for repairs or services that were not customary previous to March 7.

Electric wire—Schedule 82, fixing maximum prices on electric wire, cable and accessories at the levels on October 15, 1941, was amended, effective March 17, to require OPA's approval of prices on new products.

Lumber—Price Schedule 94, effective February 15, establishing maximum prices for all varieties of western pine at levels from $2.00 to $5.00 a thousand bd. ft. below the prices in February, 1942, was amended March 6. The schedule covers Ponderosa, Idaho white and sugar pine and gives the maximum prices for each grade and size and finish in detail. Prices, unlike those for Douglas fir and Southern pine, are based on rough-green lumber and a finished price with cost for drying is included in the base price. The schedule differs from other soft wood prices by making no allowance for mixed cars. On March 28, a charge of $1 a thousand feet for cutting to specified lengths was limited to cases where buyers require lumber of a definite length and the exact size is prescribed in the order. The basis of pricing white ash lumber was revised on April 1 and sellers permitted to add inspection charges under certain circumstances. Prices of Ponderosa pine in effect since November, 1941, were renewed April 10.

Scrap, copper—Railroad scrap which is reprocessed under conversion agreements approved by WPB was excepted from the copper and copper alloy scrap price Schedule 20 by amendments on March 14. Foundries having conversion contracts with railroads may pay a higher price for this scrap which includes journal bearings and locomotive brass castings which are returned directly to the foundry for conversion into new products of the same type and composition. Scrap not converted is subject to the standard ceilings and the weight of castings returned to railroads under the conversion agreements must be equivalent to the weight of scrap received.

Scrap, steel—Schedule 4, covering iron and steel scrap prices, as amended March 31, permits railroad steel axles shipped from dealers' yards for rerolling or reforging to be sold at $6 a gross ton over No. 1 heavy melting steel; railroad steel wheels and railroad steel springs for electric furnace or foundry, $3.50 over No. 1 heavy melting steel; railroad couplers and knuckles for electric furnaces or foundries, $3 over No. 1 heavy melting steel, while railroad brake shoes may be sold at $4.75 over No. 1 cupola cost. Railroads which sell unprepared scrap direct to consumers must price such scrap at $3.50 a gross ton, instead of $2.50, below the price for prepared scrap. The change does not effect unprepared scrap for which railroads filed average prices and is intended to adjust prices where railroad scrap loses its identity by rehandling in dealers' yards. Each grade of mixed shipments of scrap must be segregated so that the weight of each grade can be determined at the point of delivery, otherwise it must be sold at $2.50 a gross ton below the maximum price for the lowest price grade in the shipment. Maximum delivered prices for re-usable iron and steel products of certain types are enumerated in a revision of price Schedule 49 announced April 7 to clarify the distinction between re-usable and scrap materials. Used rail sold for structural purposes, counter weights, fence posts and related purposes is governed by iron and steel scrap prices rather than relaying rail prices, it was announced on April 7.

Railroad castings—Schedule 41, fixing maximum prices for railroad couplers and similar specialties, issued February 3, was amended March 13 to permit charges for extras, repair parts and pattern costs. Maximum prices for coupler repair parts must be the prices which were customarily charged between October 1 and October 15.

Iron and steel—Resale prices of iron and steel products by warehouses and jobbers, controlled by Schedule 49, as amended April 2, permits warehouses to sell wire products 20 per cent over the mill carload delivered price and permits Pacific Coast jobbers to revise freight allowances on specified products to meet changes in transportation costs. The allowances range from 20 cents a cwt. on hot bars and shapes to 75 cents a cwt. on sheared plates.

Typewriters—Maximum prices of used typewriters and their rentals were fixed at the levels prevailing on March 5 by rationing orders issued March 14, the maximum prices to continue for 60 days while prices are undergoing study. Rationing orders, effective March 25, releasing typewriters in the hands of independent distributors, wholesalers and dealers on April 13, allow un-

restricted rentals of new portable typewriters and used typewriters of all kinds while maintaining the ban on the rental of new typewriters. All sales and rentals of used typewriters were halted on March 6 and rationing made subject to the direction of OPA.

Supply Trade

Charles E. Miller, chief engineer of the **O. G. Duryea Corporation,** New York, has been elected vice-president with headquarters at Chicago.

James A. Farquharson, district representative of the **O. C. Duryea Corporation,** with headquarters at Washington, D. C., has been appointed a vice-president of the company.

Leslie E. Hess has been elected president of the **J. G. Brill Company** to succeed **Charles J. Hardy,** who becomes chairman of the board. Because of his other corporate connections, Mr. Hardy deemed it in the best interests of the company that he be relieved of certain of the duties imposed on him as president. The board of directors, therefore, created the office of chairman of the board and elected Mr. Hardy to that office. He will continue as chairman of the company's executive committee.

Mr. Hess is a graduate of the Wyoming Seminary, Kingston, Pa. He entered the

Leslie E. Hess

employ of the American Car & Foundry Co. in 1903, and held various positions during his advance through that organization. He was superintendent of production at the company's Berwick, Pa., plant for many years.

In 1928, Mr. Hess was transferred to the Detroit, Mich., plant as manager of the bus manufacturing division, American Car & Foundry Motors Co. In 1932, when the manufacture of buses was transferred to the Philadelphia, Pa., plant of the J. G. Brill Company, he went to Philadelphia in charge of all manufacturing activities and in 1935 was elected executive vice-president and also a director of that company.

OBITUARY

George L. Norris, chief metallurgist of the Vanadium Corporation of America, died at Roosevelt Hospital, New York, on April 13. He was 76 years of age. Mr. Norris was one of the pioneers in the development and application of vanadium. He joined the American Vanadium Company in 1909 and remained with the company when it became the Vanadium Corporation of America.

Ernest J. Hangarter, salesman for the Union Switch & Signal Co., died April 3 at Elizabeth, N. J. He was 46 years of age. Following service in the United States army during the world war, Mr. Hangarter entered the employ of the Hall Switch & Signal Co. at Garfield, N. J., as a clerk in the order department. In June, 1918, he was made chief clerk in the order department, later being promoted to purchasing agent and eventually joining the sales department. He continued in the sales department until the Hall Switch & Signal Co. was merged with the Union Switch & Signal Co. in September, 1935. Mr. Hangarter's first service with the Union Company was in the field construction department, where he spent approximately two years. He then transferred to the sales department, joining the New York district office.

Construction

CHICAGO & ILLINOIS MIDLAND.—A contract has been awarded the Ross and White Company, Chicago, for a Red Devil locomotive coaler to be installed at Petersburg, Ill.

CHICAGO, MILWAUKEE, ST. PAUL & PACIFIC.—An industrial spur track 3½ miles long extending northerly from Sauk City, Wis., to the Badger Ordnance Works has been completed. The contract for the grading was awarded to Morris & Dougherty, St. Paul, Minn., and the total estimated cost of the spur is $188,300.

CHICAGO & NORTH WESTERN.—Contracts totaling about $20,000 have been awarded for cleaning and repairing the exterior of the 14-story office building at Jackson boulevard and Franklin street in Chicago, which formerly housed the general offices of the railroad. The work consists of sandblasting and steam cleaning the exterior and repairs to the windows, roof and sidewalk. The repairs and cleaning work are designed to preserve the building and make it presentable. Considerable interior redecorating work may be awarded later, in the event of sale or rental of the building. The Chris Paschen Corporation, Chicago, was awarded the steam cleaning work, and Fred W. Skirrow, Chicago, was the general contractor for the other work.

MISSOURI PACIFIC.—The Brunn Construction Company, Kansas City, Mo., has been awarded a contract for the construction of a 4,000,000-gal. clear water storage basin near Auburn, Neb., to provide a source of locomotive water free of silt and sand when the river water is unsuitable. The storage basin will be rectangular in shape with rounded corners, approximately 300 ft. by 350 ft. in size. The sides will consist of an earth levee extending about 8 to 10 ft. above the valley floor with the embankment provided by excavation from within the leveed area. The earth levee will have a crown width of 8 ft., interior slopes of 2½ to 1 and exterior slopes of 3 to 1. The interior slopes will be fully rip-rapped with a 12-in. thickness of stone and the exterior slopes will be rip-rapped in places where they are exposed to overflow currents of the river.

PENNSYLVANIA.—This railroad will build two large freight classification yards in Baltimore, Md., at cost of approximately $3,000,000; one at Bay View and the other in the vicinity of Holabird avenue in Canton. It is intended to coordinate the activities of these two yards so as to concentrate therein most of the switching work now being performed at several widely separated locations in southeastern Baltimore. The work will involve 150,000 lin. ft. of tracks, 375,000 cu. yd. of grading, the electrification of upwards of 100,000 ft. of railroad and the installation of a modern signal system at the present Bay View tower.

A combined north and southbound receiving and classification yard for carload freight, which will extend northward as far as Back river, will be constructed on the south side of the railroad's main line tracks at Bay View. The southbound portion of this yard will receive trains and classify the cars for delivery to the various traffic centers in Baltimore, as well as those destined to the Canton district. The northbound portion of the yard will gather all outbound carload freight from the city proper, and the Canton section, classify it according to destination, and then forward the cars in solid trains. Import and export freight at Bay View will be segregated from that intended for Baltimore proper and moved in solid trains to and from the new Canton yard, which will then become the central point for serving the piers, waterfront warehouses, grain elevator and industrial establishments. The present Canton yard will be enlarged so as to comprise 30 tracks, with a total capacity of 600 cars. It will be a service yard for the railroad's piers, No. 1 and No. 11, each of which is capable of handling two vessels simultaneously.

The major portion of the track work and the electrification of portions of the new Bay View yard will be handled by the railroad's own forces under William B. Wood, chief engineer.

VIRGINIAN.—Division 4 of the Interstate Commerce Commission in Finance Docket No. 11428 has extended from June 30, 1942, to June 30, 1944, the time within which this company may complete the construction of its Morri branch, extending from Morri, W. Va., 10.4 miles. At the same time Division 4 in Finance Docket No. 12298 also extended from April 15, 1942, to April 15, 1944, the time within which this company may complete the construction of its Huff Creek branch in Wyoming County, W. Va., 11 miles.

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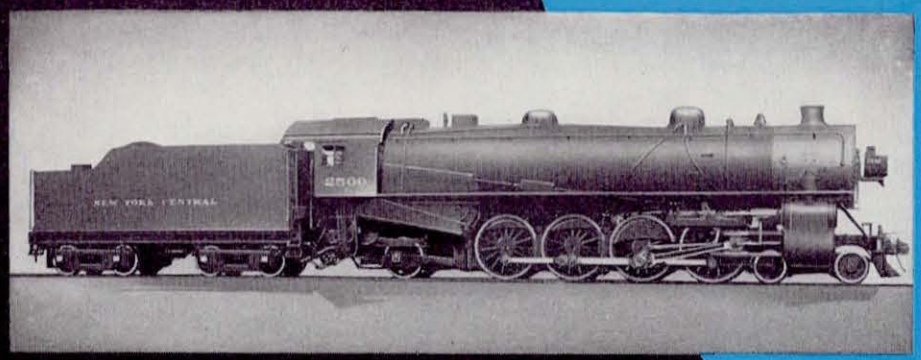
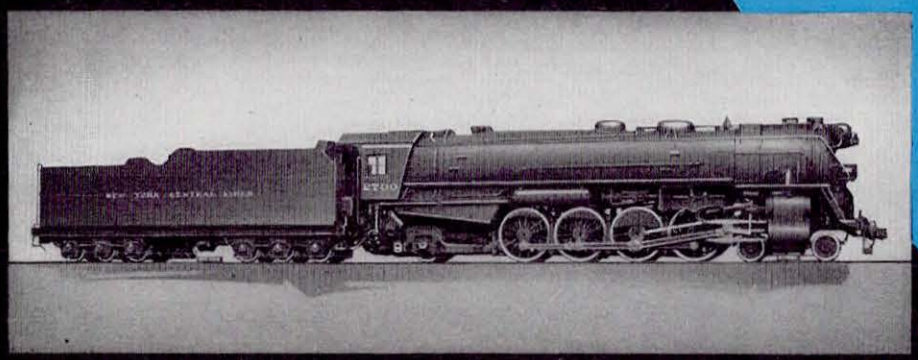
A *Demonstration*



1916



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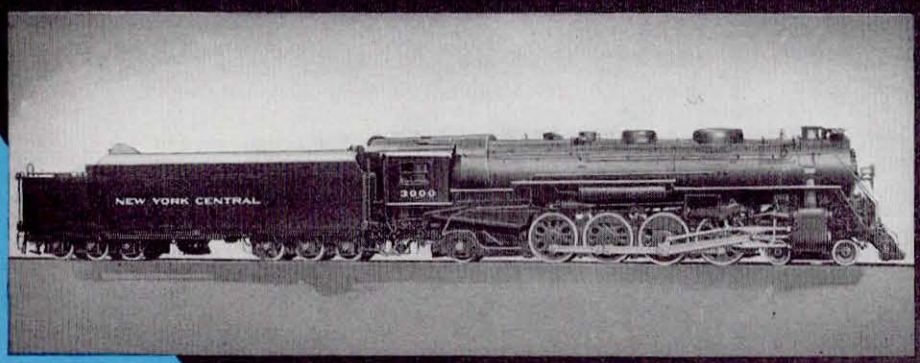


1940

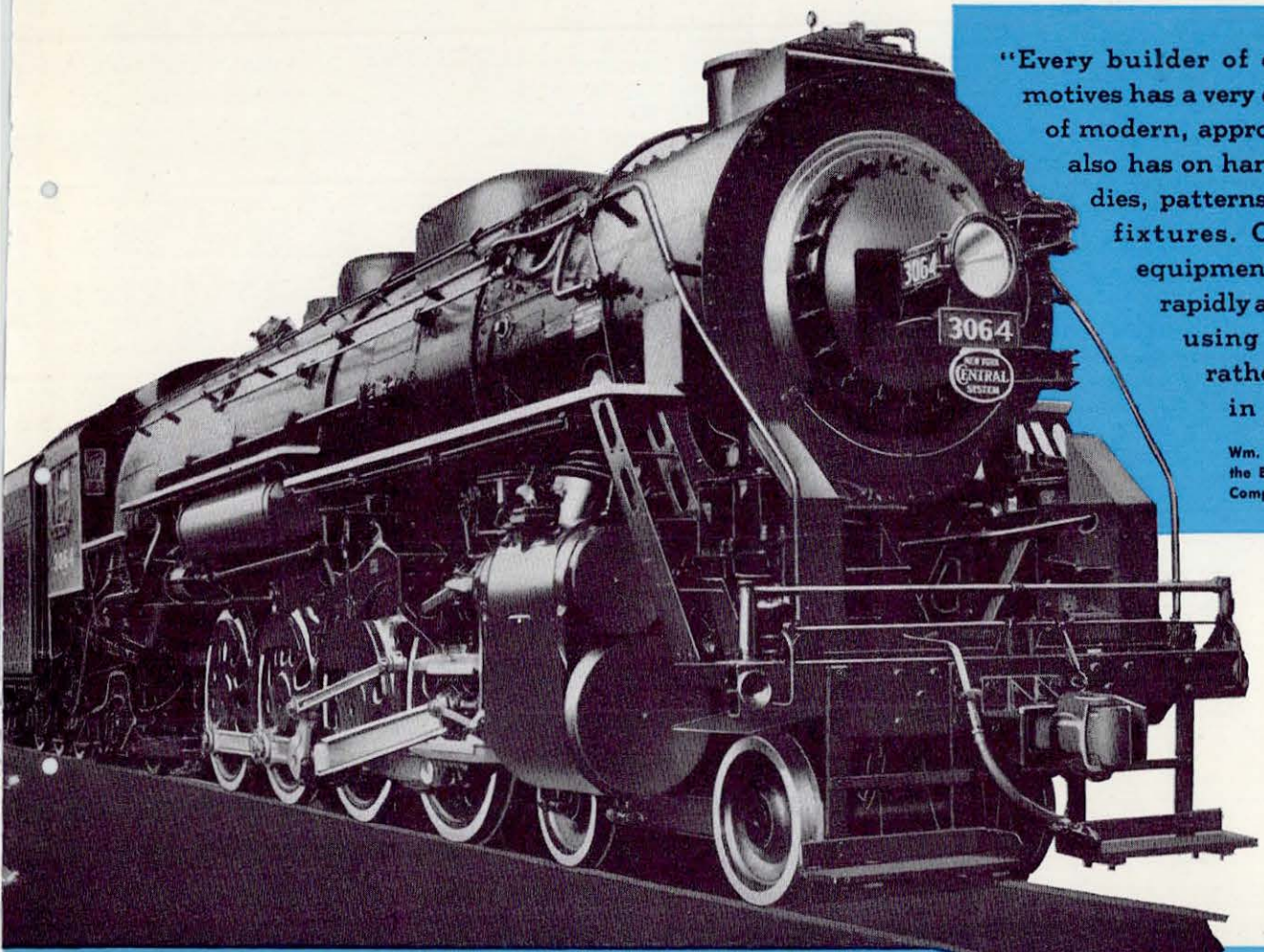
Now

OF PRACTICAL EVOLUTION

NEW YORK CENTRAL 4-8-2's

The first New York Central 4-8-2, No. 2500 was delivered in 1916. Eighty-five locomotives of that series were built during 1916 and 1917. Toward the end of 1924, the New York Central asked American Locomotive for the best model their engineering skill and experience could produce. And in 1925, No. 2700 was delivered. Two hundred and fifty of that series had been delivered by Alco by the end of 1929. Still further improvements were incorporated in No. 3000, thirty-five of which were delivered by Alco in December, 1940.

All of this design and building experience was behind No. 3064, today's model, fifteen of which have just been delivered.



"Every builder of cars and Locomotives has a very complete library of modern, approved designs. He also has on hand the necessary dies, patterns, tools, jigs and fixtures. Orders for new equipment could be filled rapidly and efficiently by using these designs, rather than starting in on new ones."

Wm. C. Dickerman, Chairman of the Board, American Locomotive Company.

AMERICAN LOCOMOTIVE

Manufacturers of Mobile Power

Steam, Diesel and Electric Locomotives, Marine Diesels, Tanks, Gun Carriages and other Ordnance

Financial

ALABAMA GREAT SOUTHERN.—*Annual Report.*—The 1941 annual report of this road shows net income of $2,975,125, after interest and other charges, an increase of $636,597 as compared with net income in 1940. Selected items from the income account follow:

	1941	Increase or Decrease Compared with 1940
RAILWAY OPERATING REVENUES	$11,102,951	+$2,877,951
Maintenance of way	1,000,704	+15,857
Maintenance of equipment	2,173,203	+473,173
Transportation	3,093,130	+746,150
TOTAL OPERATING EXPENSES	6,801,831	+1,323,334
Operating ratio	61.26	-5.35
NET REVENUE FROM OPERATIONS	4,301,120	+1,554,517
Taxes	1,898,050	824,805
Hire of equipment —Dr.	82,603	-91,562
Joint facility rents	154,007	+3,742
NET RAILWAY OPERATING INCOME	2,331,666	+634,509
Other income	1,180,589	-6,463
TOTAL INCOME	3,512,255	+628,046
Rent for leased roads and equipment	19,646	-3
Interest on funded debt	423,840	.....
TOTAL DEDUCTIONS FROM GROSS INCOME	503,023	-7,012
NET INCOME	$2,975,125	+$636,597

ANN ARBOR.—*Annual Report.*—The 1941 annual report of this road shows net income of $244,951 after interest and other charges, an increase of $221,503 as compared with net income in 1940. Selected items from the income account follow:

	1941	Increase or Decrease Compared with 1940
Average Mileage Operated	293.86	.....
RAILWAY OPERATING REVENUES	$4,762,722	+$621,577
Maintenance of way	419,612	+43,554
Maintenance of equipment	838,935	+41,617
Transportation—Rail	1,953,677	+180,088
TOTAL OPERATING EXPENSES	3,537,686	+288,806
NET REVENUE FROM OPERATIONS	1,225,036	+332,771
Railway tax accruals*	403,844	+120,801
Railway operating income	821,191	+211,970
Net rents	158,824	-106
NET RAILWAY OPERATING INCOME	662,367	+212,076
Other income	19,947	+6,737
TOTAL INCOME	682,314	+218,814
Rent for leased roads and equipment	22,756	-2,495
Interest on funded debt	409,860	.....
TOTAL FIXED CHARGES	433,197	-2,218
NET INCOME	$244,951	+$221,503

* Includes Federal income Tax Accrual of $109,270.64.

ATCHISON, TOPEKA & SANTA FE.—*Annual Report.*—The 1941 annual report of this road shows a net income, after interest and other charges, of $30,236,581, compared with a net income of $12,745,371 in 1940. Selected items from the income statement follow:

	1941	Increase or Decrease Compared with 1940
Average Mileage Operated	13,429.64	+16.22
RAILWAY OPERATING REVENUES	$225,043,649	+$55,040,009
Maintenance of way and structures	28,390,640	+4,042,012
Maintenance of equipment	43,634,761	+7,793,023
Transportation—Rail line	74,389,264	+14,879,864
TOTAL OPERATING EXPENSES	156,910,708	+27,254,071
Operating ratio	69.72	+6.55
NET REVENUE FROM OPERATIONS	68,132,940	+27,785,938
Railway tax accruals	27,626,429	+10,466,789
Railway operating income	40,506,511	+17,319,149
Equipment and joint facility rents—Net Cr.	40,279	-789,984
NET RAILWAY OPERATING INCOME	40,546,790	+16,529,165
Other income	3,192,116	+818,580
TOTAL INCOME	43,738,906	-17,347,746
Rent for leased roads and equipment	1,557	-38
Interest on funded debt	12,953,296	-229,701
TOTAL DEDUCTIONS FROM GROSS INCOME	13,502,325	-143,465
NET INCOME	$30,236,581	+$17,491,210

BANGOR & AROOSTOOK.—*Annual Report.*—The 1941 annual report of this road shows net income of $653,725 after interest and other charges, an increase of $528,192 as compared with net income in 1940. Selected items from the income account follow:

	1941	Increase or Decrease
RAILWAY OPERATING REVENUES	$5,665,619	+$794,167
Maintenance of way	972,194	-43,384
Maintenance of equipment	1,035,257	+80,783
Transportation	1,504,006	+121,699
TOTAL OPERATING EXPENSES	3,852,757	+166,222
Operating ratio	68.00	-7.68
NET REVENUE FROM OPERATIONS	1,812,862	+627,945
Railway tax accruals	711,978	+252,931
Railway operating income	1,100,883	+375,013
Net rents—Cr.	256,433	+138,868
NET RAILWAY OPERATING INCOME	1,357,317	+513,882
Other income	50,941	+5,611
TOTAL INCOME	1,408,257	+519,492
Interest on funded debt	734,786	-4,822
TOTAL FIXED CHARGES	748,255	-8,796
NET INCOME	$653,725	+$528,192

CHICAGO, BURLINGTON & QUINCY.—*Abandonment.*—The Wichita Valley, the Wichita Falls & Oklahoma, and the Wichita Falls & Oklahoma of Oklahoma have asked the Interstate Commerce Commission for authority to abandon the Waurika branch extending from Wichita Falls, Tex., to Waurika, Okla., 34.7 miles. At the same time the Wichita Falls & Southern, which is not affiliated with the Chicago, Burlington & Quincy, has asked authority to abandon operation over the branch.

CHICAGO, MILWAUKEE, ST. PAUL & PACIFIC.—*Substitution of Equipment in Equipment Trust.*—Division 4 of the Interstate Commerce Commission has modified its certificate and order in Finance Docket No. 13216 so as to show that this company will purchase six coaches instead of the six parlor cars already authorized. The supplemental application explained that the company has been unable to get priorities on the materials for the parlor cars but feels that it can get them on the coaches. The original amount of the equipment trust which was authorized early last year was $3,120,000.

CHICAGO & NORTH WESTERN.—*Abandonment.*—This company would be authorized to abandon its so-called Hiles branch extending from Hiles Junction, Wis., easterly to Hiles, 9.1 miles, if Division 4 of the Interstate Commerce Commission adopts a recommended report of its Examiner Lucian Jordan.

CHICAGO & NORTH WESTERN.—*Annual Report.*—The 1941 annual report of this road shows net income of $1,460,117 after interest and other charges, as compared with a net deficit of $5,222,369 in 1940. Selected items from the income account follow:

	1941	Increase or Decrease Compared with 1940
Average Mileage Operated	8,303	-21
RAILWAY OPERATING REVENUES	$109,866,461	+$17,066,154
Maintenance of way	14,124,124	+779,661
Maintenance of equipment	20,361,506	+2,452,352
Transportation	39,964,224	+4,143,750
TOTAL OPERATING EXPENSES	80,866,471	+7,703,510
Operating ratio	73.6	-5.2
NET REVENUE FROM OPERATIONS	28,999,990	+9,362,644
Railway tax accruals	9,264,345	+2,665,054
Equipment rents—Net	2,849,604	+31,752
Joint facility rents—Net	92,965	-32,738
NET RAILWAY OPERATING INCOME	16,793,076	+6,698,576
Other income	1,559,528	+118,214
TOTAL INCOME	18,352,604	+6,816,790
Rent for leased roads	5,576	+149
Interest on funded debt	*16,235,231	-60,136
TOTAL FIXED CHARGES	16,332,923	-114,111
NET INCOME	$1,460,117	+$6,682,486

* Includes interest accrued on matured bonds and notes.

CHICAGO, ROCK ISLAND & PACIFIC.—*Reorganization.*—Acting on a request of a group of institutional bondholders, the Interstate Commerce Commission has issued a supplemental report further describing the basis for allocations of new securities in a report on a plan for the reorganization of this company which is now the subject of a considerable amount of litigation in the federal courts. The commission reaffirms its previous finding that the allocation was fair and equitable.

DENVER & RIO GRANDE WESTERN.—*Abandonment.* — This company has been authorized by Division 4 of the Interstate

Commerce Commission to abandon its so-called Orient branch extending southeasterly from Villa Grove, Colo., to the end of the branch at Orient, eight miles.

ERIE & MICHIGAN RAILWAY & NAVIGATION.—*Stock.*—This company has asked the Interstate Commerce Commission for authority to issue 9,270½ shares of common capital stock of a par value of $10 each, to be exchanged for 927.05 shares of common capital stock of a par value of $100 each. The reason given for changing the par value is that the company is desirous of making it possible for its employees and others to purchase an interest in the enterprise, and it is felt that the reduction in the value of each share of stock will make such purchases easier.

FLORIDA EAST COAST.—*Annual Report.*—The 1941 annual report of this road shows net deficit of $1,290,614 after interest and other charges, a decrease of $623,316 as compared with net deficit in 1940. Selected items from the income account follow:

	1941	Increase or Decrease Compared with 1940
Average Mileage Operated	685	.....
RAILWAY OPERATING REVENUES	$11,499,121	+$750,283
Maintenance of way	1,567,269	+49,295
Maintenance of equipment	2,048,088	+90,499
Transportation—Rail	3,901,264	+152,049
TOTAL OPERATING EXPENSES	8,653,013	+311,331
NET REVENUE FROM OPERATIONS	2,846,108	+438,953
Railway tax accruals	719,098	-91,560
Railway operating income	2,127,011	+530,513
Hire of equipment —Net Dr.	554,915	-36,143
Joint facility rents —Net Dr.	*8,431	-28,652
NET RAILWAY OPERATING INCOME	1,580,527	+595,308
Other income	71,571	-8,997
GROSS INCOME	1,652,098	+586,311
Total interest on funded debt	2,823,280	-14,222
NET DEFICIT	$1,290,614	-$623,316

* Credit.

FONDA, JOHNSTOWN & GLOVERSVILLE.—*Reorganization.*—The Interstate Commerce Commission has made minor modifications in the final plan of reorganization for this company. The principal change in the plan would authorize the judge to advance the effective date of the plan to either January 1, 1942, or July 1, 1942, if in his opinion it becomes necessary or advisable in order to provide an adequate amount of cash to put the plan into effect without unsafely impairing the working capital of the reorganized company, provided, that if the effective date be advanced from July 1, 1941, to either January 1, 1942, or July 1, 1942, (1) the allocations provided in the approved plan of $750 of new first mortgage bonds, and $410 of new second mortgage income bonds to the holders of each $1,000 of old general refunding mortgage bonds shall be increased $13 and $7, respectively, for each six months of such advance of the effective date, and (2) the allocations provided in the plan of $25 of new first mortgage bonds and $65 of new second mortgage income bonds to holders of each $1,000 of first consolidated general refunding mortgage bonds shall each be reduced $1 for each six months of such advance of the effective date.

FONDA, JOHNSTOWN & GLOVERSVILLE.—*Annual Report.*—The 1941 annual report of this road shows net deficit of $43,470, after interest and other charges, a decrease of $43,357 as compared with net deficit in 1940. Selected items from the income account follow:

	1941	Increase or Decrease Compared with 1940
RAILWAY OPERATING REVENUES	$559,238	+$57,150
TOTAL OPERATING EXPENSES	403,923	+10,469
NET REVENUE FROM OPERATIONS	155,315	+46,681
Railway taxes	32,938	-3,670
Railway operating income	122,377	+50,351
Net rents (Dr.)	10,101	-3,729
NET RAILWAY OPERATING INCOME	112,276	+46,622
Other income	26,357	+3,941
TOTAL INCOME	138,633	+50,563
Rent for leased roads	6,693	-215
Interest on funded debt	137,287	-533
TOTAL FIXED CHARGES	156,355	+6,044
NET DEFICIT	$43,470	-$43,357

GEORGIA SOUTHERN & FLORIDA.—*Annual Report.*—The 1941 annual report of this road shows net income of $168,901 after interest and other charges, an increase of $31,006 as compared with net income in 1940. Selected items from the income account follow:

	1941	Increase or Decrease Compared with 1940
RAILWAY OPERATING REVENUES	$3,594,411	+$612,076
Maintenance of way	510,985	+102,006
Maintenance of equipment	577,389	+120,490
Transportation	1,318,788	+188,335
TOTAL OPERATING EXPENSES	2,544,321	+426,539
Operating ratio	70.79	-0.22
NET REVENUE FROM OPERATIONS	1,050,090	+185,538
Taxes	246,621	+59,791
Railway operating income	803,469	+125,746
Hire of equipment	255,842	+94,079
Joint facility rents	23,338	+1,760
NET RAILWAY OPERATING INCOME	524,290	+29,908
Other income	7,572	-1,139
TOTAL INCOME	531,861	+28,769
Interest on funded debt	281,548	-3,850
TOTAL DEDUCTIONS FROM GROSS INCOME	362,960	-2,237
NET INCOME	$168,901	+$31,006

ILLINOIS CENTRAL.—*Annual Report.*—The 1941 annual report of this road shows a net income, after interest and other charges, of $10,557,195, compared with a net income of $1,296,619 in 1940. Selected items from the income statement follow:

	1941	Increase or Decrease Compared with 1940
Average Mileage Operated	6,516.92	-29.08
RAILWAY OPERATING REVENUES	$142,438,326	+$28,171,915
Maintenance of way	15,394,788	+2,899,924
Maintenance of equipment	29,354,199	+5,808,588
Transportation	48,952,052	+6,419,200
TOTAL OPERATING EXPENSES	101,729,066	+15,762,787
Operating ratio	71.42	-3.81
NET REVENUE FROM OPERATIONS	40,709,260	+12,409,129
Total taxes	13,466,991	+3,413,783
Railway operating income	27,242,269	+8,995,345
Hire of equipment —Net Dr.	1,511,002	-124,597
Joint facility rents —Net Cr.	281,147	+27,010
NET RAILWAY OPERATING INCOME	26,012,414	+9,146,953
Other income	830,259	-45,842
TOTAL INCOME	26,842,673	+9,101,110
Rent for leased roads	584,579	-649,545
Interest on funded debt	15,046,053	+208,374
TOTAL DEDUCTIONS FROM GROSS INCOME	16,285,478	-159,466
NET INCOME	10,557,195	+9,260,576
Income applied to sinking funds	131,186	+8,697
Balance, transferred to profit and loss	$10,426,009	+$9,251,879

LOUISVILLE & NASHVILLE.—*Equipment Trust Certificates.*—Division 4 of the Interstate Commerce Commission has dismissed, at this company's request, its application in Finance Docket No. 13684, wherein it sought authority to assume liability for $11,000,000 of equipment trust certificates. The action was made necessary because of last week's action of the War Production Board in deciding to drastically reduce the number of freight cars and locomotives for the current year and to ration them to the various railroads.

MAGMA ARIZONA.—*Deficit Status.*—Division 4 of the Interstate Commerce Commission has found that the provisions of section 204 of the Transportation Act of 1920, as amended January 7, 1941, do not apply to this company and has dismissed its claim. Division 4 further found that whatever loss the company sustained during private operation in the federal control period was self-imposed due to the fact that it did not increase its rates when authorized to by the Director General of Railroads.

NEVADA COUNTY NARROW GAUGE.—*Abandonment.*—This company has asked the Interstate Commerce Commission for authority to abandon its entire line extending from Colfax, Calif., to Nevada City, 20.7 miles.

NEW ORLEANS & NORTHEASTERN.—*Annual Report.*—The 1941 annual report of this company shows net income of $1,108,099 after interest and other charges, an increase of $797,044 as compared with net

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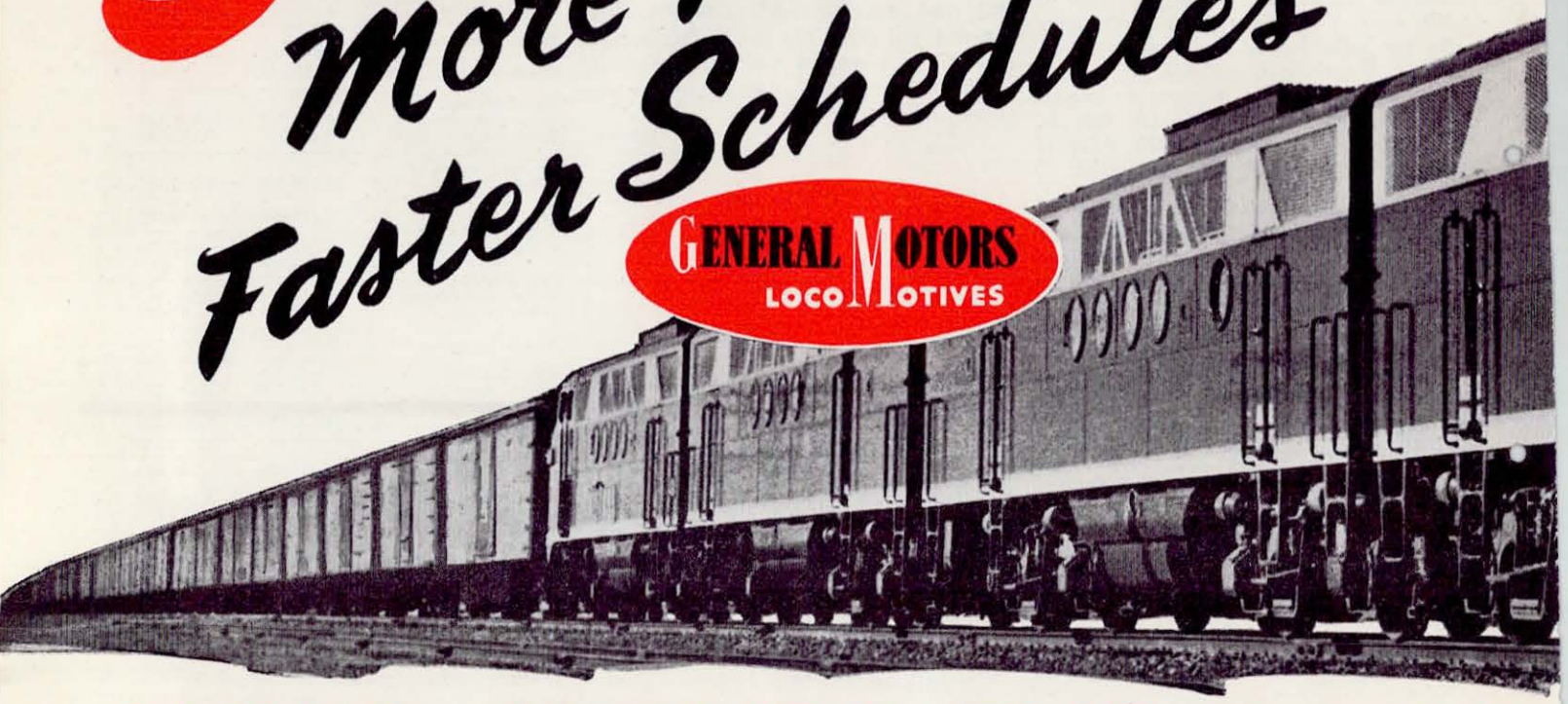
50% REDUC

More Tonnage Faster Schedules

GENERAL MOTORS LOCOMOTIVES



WHO SERVES THE RAILR

Meeting the Challenge

AMERICAN railroads are today faced with the greatest transportation responsibility in our nation's history, that of moving the fast growing army of men, materials and supplies with safety and dispatch.

In meeting this challenge, General Motors Diesel locomotives in all classes of service are playing an important part, not only in promoting the conservation of vital war materials, such as metals and fuel, but many other operating advantages and economies. In this program the GM 5400 Hp. Diesel freight locomotives are particularly outstanding as evidenced by their ability to:

(a) Effect savings in train miles as much as 50 per cent, making one Diesel train mile the equivalent of two steam train miles.

(b) Release for other important service as many as five heavy steam locomotives for each Diesel locomotive operated.

(c) Increase the traffic hauling and time capacity; also availability for service.

(d) Provide faster schedules by eliminating many service delays now required for steam locomotives.

(e) Increase carrying capacity of existing track facilities without expensive rail replacements and rebuilding of bridge structures . . . this due to even weight distribution and low axle load of Diesels.

ELECTRO-MOT

GENERAL MOTORS CORPORATION

TION IN TRAIN MILES

OADS – SERVES AMERICA

Conservation of War Materials

THE CONSERVATION of vital and strategic war materials made possible by the construction of Diesels instead of steam locomotives is clearly shown in the following comparisons:

(a) **192 TONS** of materials in the form of two 600 Hp. Diesel switchers will do the work of **420 TONS** of such materials in the form of three 6-wheel steam switchers.

(b) **240 TONS** of materials in the form of two 1000 Hp. Diesel switchers will do the work of **495 TONS** of such materials in the form of three 8-wheel steam switchers.

(c) **585 TONS** of materials in the form of two 4000 Hp. Diesel passenger locomotives will do the work of **1250 TONS** of such materials in the form of five modern steam passenger locomotives.

(d) **415 TONS** of materials in the form of one 5400 Hp. Diesel freight locomotive will generally do the work of **1200 TONS** of such materials in the form of four 4-8-4 modern steam freight locomotives, or **900 TONS** in the form of two Mallet steam locomotives.

MODERNIZE TO MOBILIZE WITH GM DIESELS

IVE DIVISION

LA GRANGE, ILLINOIS, U. S. A.

income in 1940. Selected items from the income account follow:

	1941	Increase or Decrease Compared with 1940
Railway Operating Revenues	$5,613,872	+$2,253,940
Maintenance of way	549,651	+129,177
Maintenance of equipment	493,429	+73,267
Transportation	1,422,001	+470,181
Total Operating Expenses	2,764,840	+750,287
Operating ratio	49.25	-10.71
Net Revenue from Operations	2,849,032	+1,503,653
Taxes	1,020,834	+632,653
Railway operating income	1,828,198	+871,187
Hire of equipment	509,047	+111,351
Joint facility rents —Dr.	107,647	-8,807
Net Railway Operating Income	1,426,799	+751,029
Other income	27,256	+1,873
Total Income	1,454,055	+752,902
Interest on funded debt	342,719	-44,848
Total Deductions from Gross Income	345,956	-44,141
Net Income	$1,108,099	-$797,044

Southern Pacific. — *Abandonment.* — This company has asked the Interstate Commerce Commission for authority to abandon a part of its Oakdale branch extending from Montpellier, Calif., to Merced, 21.1 miles.

Southern Pacific.—*Abandonment by the Texas & New Orleans.*—The Texas & New Orleans has asked the Interstate Commerce Commission for authority to abandon its line extending from Fournet, La., to Cleon, 2.2 miles, together with 0.3 mile of side track.

Southern Pacific. — *Abandonment.* — This company has been authorized by Division 4 of the Interstate Commerce Commission to abandon that portion of the so-called Smeltzer branch extending in a southerly direction from Wintersburg, Calif., to the end of the line at Wiebling, 1.1 miles.

Tennessee Central.—*Equipment Trust Certificates and RFC Financing.*—Division 4 of the Interstate Commerce Commission has approved a plan whereby this company will issue and sell to the Reconstruction Finance Corporation $342,000 of 2¾ per cent equipment trust certificates, maturing in 20 semiannual installments as follows: $18,000 on January 1 and July 1, 1943, and $17,000 on January 1 and July 1 in each year thereafter to and including July 1, 1952.

Western Maryland.—*Abandonment.*—This company has asked the Interstate Commerce Commission for authority to abandon a line extending from Thomas, W. Va., to the end of the trackage at Davis, 5.4 miles.

Average Prices of Stocks and Bonds

	Apr. 14	Last week	Last year
Average price of 20 representative railway stocks..	24.47	25.62	29.05
Average price of 20 representative railway bonds..	66.45	67.53	64.17

Railway Officers

EXECUTIVE

Col. Carl R. Gray, Jr., executive vice-president of the Chicago, St. Paul, Minneapolis & Omaha, with headquarters at St. Paul, Minn., has been called to service, effective May 15, as head of the Military Railway Service, with headquarters at Ft. Snelling, Minn. The army plan calls for the commanding officer of this service, which is part of the U. S. Army Engineer Corps, to hold the rank of brigadier general.

C. R. Zarfoss, whose promotion to assistant to president of the Western Maryland at Baltimore, Md., was reported in the *Railway Age* of March 11, was born on October 17, 1907, in York county, Pa. He attended West York high school and Thompson College and entered railroad service on May 1, 1926, as general clerk in the transportation department of the

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C. R. Zarfoss

Western Maryland. In June, 1927, he became chief clerk, being appointed contracting freight agent in August, 1932; traveling freight agent in January, 1933; and secretary to president in August, 1937. He became industrial agent in December, 1937, which position he held until his recent promotion.

FINANCIAL, LEGAL AND ACCOUNTING

F. O. Kersten, tax agent on the Northern Pacific, has been promoted to assistant tax commissioner, with headquarters at Seattle, Wash., succeeding **W. C. Smith,** who retired on April 1.

Prescott J. Kendall, whose promotion to assistant general auditor of the Southern Pacific, with headquarters at San Francisco, Cal., was reported in the *Railway Age* of April 4, was born at San Luis Obispo, Cal., on July 13, 1898, and attended business college. He entered railway service on March 10, 1919, as a clerk in the auditor's office of the Southern Pacific at San Francisco, later being advanced to special accountant. In September, 1929, he was appointed chief clerk to the auditor and three years later he was promoted to assistant to the general auditor. Mr. Kendall was appointed auditor of miscellaneous

Prescott J. Kendall

accounts in September, 1935, which position he held until his recent promotion, effective April 1.

Monroe Edgar Clinton, whose promotion to general attorney of the Texas & Pacific, with headquarters at Dallas, Tex., was reported in the *Railway Age* of March 21, was born at Portland, Tenn., on May 10, 1901, and entered railway service on August 31, 1917, as a messenger in the office of the chief dispatcher on the Louisville & Nashville at Nashville, Tenn., later serving as a clerk to the supervisor of bridges and buildings, clerk to the trainmaster, and clerk, stenographer and secretary in the office of the superintendent at Nashville. During this period, Mr. Clinton studied train dispatching at nights from 1919 to 1921 and attended Vanderbilt University from 1922 to 1925, graduating in law in the latter year. On June 10, 1925, he was appointed associate editor for the Louisville & Nashville Employes' Magazine and on December 26, 1926, he left rail-

Monroe Edgar Clinton

road service to engage in the private practice of law and became law clerk for McClelland, Rice & Stone, who were also district attorneys in Alabama for the L. & N. On January 1, 1928, he became associated

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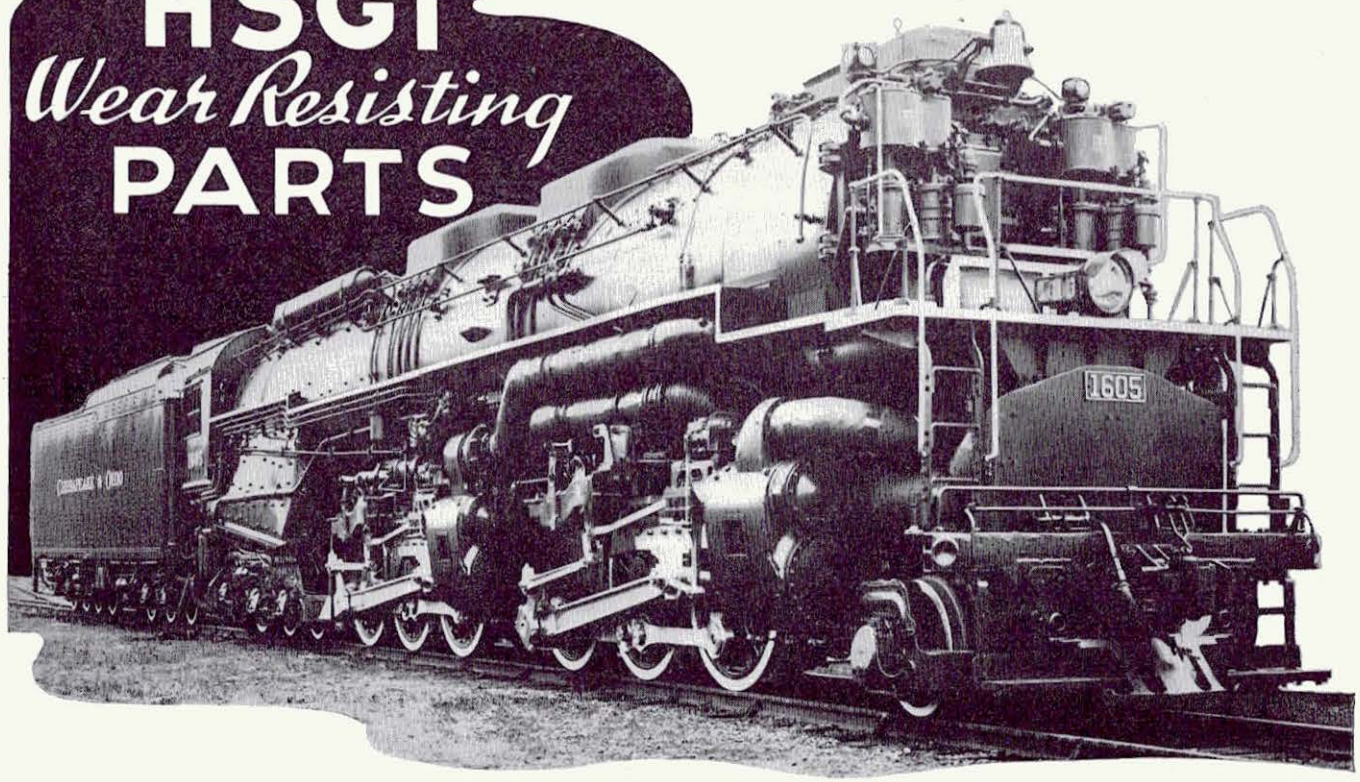
HSGI *Wear Resisting* PARTS



INCREASE LOCOMOTIVE EARNINGS

THE service built into vital wearing parts is a very important factor in the net revenues produced by your power.

Especially those parts which influence locomotive efficiency, fuel consumption, availability and cost of maintenance.

Below is a list of vital parts for which most American railroads specify HUNT-SPILLER *Air Furnace* GUN IRON—because its wear-resisting properties *insure greater earnings from every locomotive equipped.* Materials which last longest are very vital to the nation's emergency program.

H S G I
Reg. U.S. Trade Mark
Cylinder Bushings
Cylinder Packing Rings
Pistons or Piston Bull Rings
Valve Bushings
Valve Packing Rings
Valve Bull Rings
Crosshead Shoes
Hub Liners
Shoes and Wedges
Floating Rod Bushings
Finished Parts
Dunbar Sectional Type Packing
Duplex Sectional Type Packing
for Cylinders and Valves
(Duplex Springs for Above
Sectional Packing)
Cylinder Snap Rings
Valve Rings All Shapes
Light Weight Valves
Cylinder Liners and Pistons
for Diesel Service

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383 Dorchester Ave. *Office & Works* South Boston, Mass.

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HUNT-SPILLER *Air Furnace* GUN IRON

with E. G. Senter at Dallas, Tex., and on December 30, 1928, he was appointed attorney for the Texas & Pacific. Mr. Clinton was promoted to assistant general attorney on June 1, 1939, which position he held until his recent promotion, effective March 12.

J. T. McManmon has been appointed general freight claim agent of the Great Northern, with headquarters at St. Paul, Minn., succeeding **J. A. Nelson,** chief freight claim agent, who retired from active service on April 1.

OPERATING

E. F. Peters, assistant trainmaster on the New York, Chicago & St. Louis at Conneaut, Ohio, has been promoted to trainmaster of the Sandusky division, Lake Erie and Western district.

S. J. Keeler, chief clerk to the superintendent of the Peoria & Pekin Union, has been promoted to assistant superintendent, with headquarters as before at Peoria, Ill.

C. M. Self, executive assistant of the Chicago, Indianapolis & Louisville (Monon), has been promoted to chief operating officer, with headquarters as before at Chicago. Mr. Self was born at Oakman, Ala., on February 9, 1900, and graduated from the Atlanta (Ga.) Law School. He entered railway service on the Southern in 1918 during a summer vacation from school and served that road during succeeding summer vacations and then permanently as a laborer, machinist, clerk and accountant in the mechanical, maintenance of way and transportation departments. He was later promoted to chief clerk to the roadmaster and then served successively as chief clerk to the chief dispatcher, chief clerk to the engineer maintenance of way, and chief clerk to the superintendent. He was then promoted to assistant trainmaster and later advanced to trainmaster. On August 15, 1939, he went with the Monon as executive assistant, with headquarters at Chicago, which position he held until his recent promotion, effective April 11.

C. M. Self

T. H. Meeks, assistant superintendent on the Southern Pacific Lines in Texas and Louisiana at Houston, Tex., has been promoted to assistant to the vice-president and general manager, with the same headquarters, and **F. E. Hoefer,** trainmaster at Austin, Tex., has been advanced to assistant superintendent at Houston, succeeding Mr. Meeks. **T. P. Kelly** has been appointed trainmaster at Austin, relieving Mr. Hoefer.

John Thomas Waddell, whose promotion to superintendent of the Tennessee Central, with headquarters at Nashville, Tenn., was reported in the *Railway Age* of February 14, was born at Oak Hill, Va., on January 11, 1884, and attended Perry-Rainey College, Auburn, Ga. He entered railway service in 1899 as a timekeeper on the Chesterfield & Kershaw (now part of the Seaboard), later serving as telegraph operator and agent on the Seaboard, telegraph operator on the Atlantic Coast Line, and telegraph operator and dispatcher on the Baltimore & Ohio. In 1904 he returned to the Seaboard as a train dispatcher and in 1906 he went with the Central of Georgia as a dispatcher. A year later, Mr. Waddell became chief dispatcher and superintendent of transportation of the Georgia, Florida & Alabama (now part of the Seaboard) and in 1915 he became superintendent of the Atlanta & St. Andrews Bay. In 1917 he went with the Tennessee Central as chief dispatcher, later being promoted to trainmaster. In February, 1922, he was promoted to superintendent and in January, 1939, he was appointed assistant superintendent, which position he held until his recent promotion.

John Thomas Waddell

R. H. Graham, assistant chief clerk in the office of the general manager of the Southern, with headquarters at Charlotte, N. C., has been appointed assistant trainmaster at Strasburg, Va., succeeding **H. C. Mauney.** It was erroneously reported in the *Railway Age* of April 11 that Mr. Graham's former position was assistant general passenger agent at Charlotte. The **R. H. Graham** who holds the latter position is another member of the Southern's official family.

Walter S. Alcumbrac, whose promotion to superintendent of the Dakota division of the Chicago & North Western, with headquarters at Huron, S. D., was reported in the *Railway Age* of April 4, was born at Plainfield, Ill., on July 22, 1896, and took a course in law. He entered railway service in August, 1917, as a warehouseman on the North Western at Woodstock, Ill., later serving as a freight brakeman out of Chicago on the Wisconsin division, a carpenter at Harvard, Ill., and a freight brakeman and conductor on the Wisconsin division. On November 23, 1933, Mr. Alcumbrac was promoted to trainmaster at Boone, Iowa, and on March 16, 1937, he was transferred to Milwaukee, Wis. He was promoted to assistant superintendent on the Galena division at Chicago on December 1, 1938, and was transferred to Escanaba, Mich., on April 1, 1940. Mr. Alcumbrac was transferred to Sioux City, Iowa, on November 1, 1941, where he was located until his recent promotion effective April 1.

Walter S. Alcumbrac

George R. Branch, superintendent of the Missouri-Kansas division of the Chicago, Rock Island & Pacific, with headquarters at Kansas City, Mo., has been transferred to the Pan Handle division at Dalhart, Tex., succeeding **Eric B. Herdman,** who has been transferred to the Oklahoma division, with headquarters at El Reno, Okla. Mr. Herdman replaced **Clarence C. Fertig,** who in turn has been transferred to the Missouri-Kansas division at Kansas City, replacing Mr. Branch.

Carl A. Naffziger, whose promotion to superintendent of stations and claim prevention for the Missouri Pacific, with headquarters at St. Louis, Mo., was reported in the *Railway Age* of March 21, was born at Otoe, Neb., on June 1, 1904, and attended the University of Nebraska for 2½ years. He entered railway service on June 5, 1926, as an extra telegrapher and agent on the Omaha division of the Missouri Pacific and on April 16, 1934, he was promoted to assistant agent at Atchison, Kan. On March 6, 1936, Mr. Naffziger was advanced to agent at Atchison and on April 27, 1940, he was promoted to agent-yardmaster at that point, which position he held until his recent promotion, effective March 16.

TRAFFIC

Roy F. Wendt, city passenger agent for the Chicago, St. Paul, Minneapolis &

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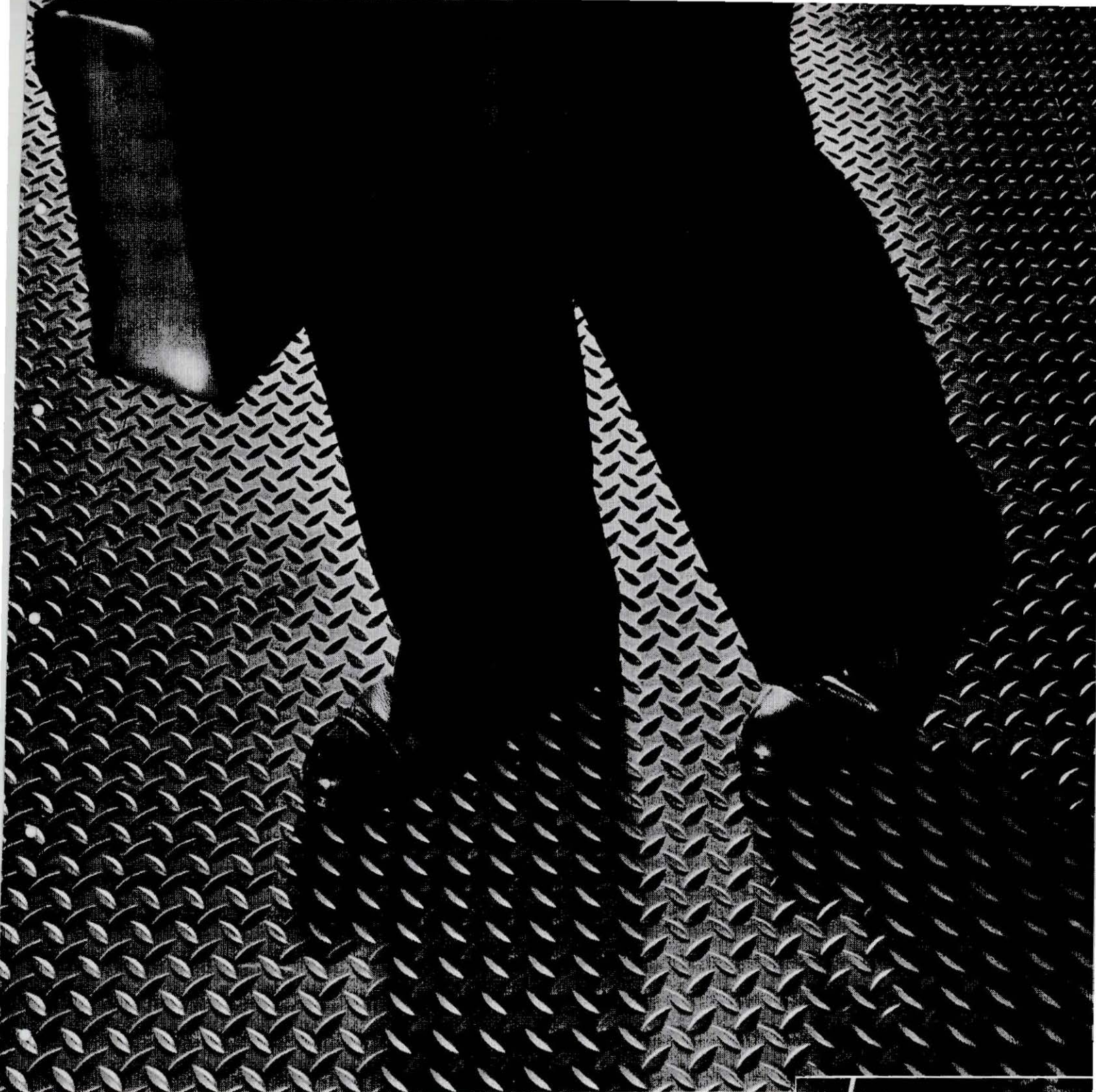
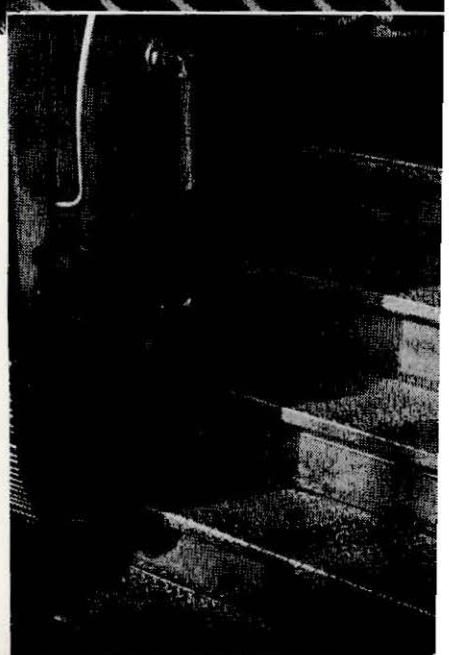


When safety means so much . . . On America's great trains and in plants fighting the battle of production, "A.W." Rolled Steel Floor Plate prevents costly slipping and falling accidents. Saves man hours when time is short. Every step is a safe step on "A.W." Floor Plate. Fire-proof, heat-proof, oil-proof, crack-proof. Easy to clean, quick to drain. No maintenance expense.



ALAN WOOD STEEL COMPANY

MAIN OFFICE AND MILLS: CONSHOHOCKEN, PA. District Offices and Representatives: Philadelphia, New York, Boston, Atlanta, Buffalo, Chicago, Cincinnati, Cleveland, Denver, Detroit, Houston, St. Paul, New Orleans, Pittsburgh, Roanoke, Sanford, N. C., St. Louis, Los Angeles, San Francisco, Seattle, Montreal.

Omaha at St. Paul, Minn., has been promoted to general agent, passenger department, with the same headquarters, succeeding **George H. Feyder,** who died on March 22.

Jorge Alarcon, general freight and passenger agent of the Southern Pacific Railroad Company of Mexico, with headquarters at Guadalajara, Jal., has been promoted to the newly created position of traffic manager, with the same headquarters, and **J. V. Saldamando,** assistant general freight agent at Guadalajara, has been promoted to general freight and passenger agent, succeeding Mr. Alarcon. **Jose Avila, Jr.,** has been appointed assistant general freight agent at Guadalajara, relieving Mr. Saldamando.

Mr. Alarcon was born at Ciudad Juarez, Chih., on April 26, 1895, and attended business college at El Paso, Tex. He entered railway service in December, 1912, as a stenographer on the National Railways of Mexico and in 1915 he went with the Southern Pacific of Mexico as a stenographer, later being promoted to passenger clerk and to chief passenger clerk. In 1922 he was advanced to chief clerk of the traffic department and in February, 1927, he was promoted to assistant general freight agent. Mr. Alarcon was further advanced to general freight and passenger agent in August, 1928, which position he held until his recent promotion.

MECHANICAL

J. G. Danneberg has been appointed master mechanic on the Atchison, Topeka & Santa Fe at Arkansas City, Kan., succeeding **J. W. Atkinson,** who has been transferred to Shopton (Ft. Madison) Iowa.

ENGINEERING & SIGNALING

V. W. Oswalt has been appointed supervisor of work equipment on the Western lines of the Southern, with headquarters at Cincinnati, Ohio, succeeding **R. C. O'Mar,** who has resigned.

F. N. Beighley has been appointed division engineer of the Northern division of the St. Louis-San Francisco, with headquarters at Fort Scott, Kan., succeeding **Benjamin H. Crosland,** who has entered military service.

Norman D. Bloom, roadmaster on the Atchison, Topeka & Santa Fe at La Junta, Colo., has been promoted to acting division engineer with hearquarters at Las Vagas, N. M., succeeding **H. E. Wilson,** who has entered military service.

B. C. Eaton has been appointed signal construction engineer of the Denver & Rio Grande Western, with headquarters at Glenwood Springs, Colo., succeeding **B. M. Durland,** who has returned to the position of assistant signal supervisor at Grand Junction, Colo.

W. E. Blake, inspector of work equipment on the Chicago, Milwaukee, St. Paul & Pacific, has been promoted to supervisor of work equipment, Lines West, with headquarters at Seattle, Wash., succeeding **E. P. Sima,** who has been granted a leave of absence to enter military service.

H. M. Booth, engineer-roadmaster of the St. Louis, San Francisco & Texas (Texas lines of the St. Louis-San Francisco), with headquarters at Ft. Worth, Tex., has been promoted to division engineer on the St. Louis-San Francisco at Springfield, Mo., succeeding **Elmer L. Anderson,** whose promotion to assistant to the general manager at Springfield was reported in the *Railway Age* of April 4. **L. M. Harsha,** roadmaster at Oklahoma City, Okla., has been advanced to engineer-roadmaster at Ft. Worth, relieving Mr. Booth.

L. P. Struble, assistant to the chief engineer of the Central region of the Pennsylvania at Pittsburgh, Pa., has been promoted to chief engineer of the Eastern region, with headquarters at Philadelphia, Pa., to succeed **William B. Wood,** who has been appointed resident engineer at Baltimore, Md.

James M. Fair, engineer maintenance of way of the Western Pennsylvania division of the Pennsylvania, has been promoted to assistant chief engineer maintenance of way of the Central region, with headquarters as before at Pittsburgh, Pa., succeeding **William E. Brown,** whose death on March 10 was reported in the *Railway Age* of March 28, and **L. E. Gingerich,** division engineer in the office of the chief engineer at Philadelphia, Pa., has been advanced to engineer maintenance of way of the Western Pennsylvania division, succeeding Mr. Fair.

Hans F. Bober, whose promotion to assistant engineer of bridges of the Chicago, Rock Island & Pacific, with headquarters at Chicago, was reported in the *Railway Age* of March 28, was born at Dartmouth, N. S., on October 18, 1892, and graduated from Nova Scotia Technical College, Halifax, N. S., in 1911. He entered railway service on the Rock Island in 1914 and a year later went with the Elgin, Joliet & Eastern as a draftsman and designer. During the first World War he served with the 33rd Engineers of the U. S. Army, afterwards returning to railroad service as a designer for the Rock Island. From 1922 to 1935 Mr. Bober served successively as masonry inspector, resident engineer on construction work and bridge inspector. In 1936 he was promoted to district supervisor of bridges and in 1938 he was advanced to assistant engineer, with headquarters at Chicago, which position he held until his recent promotion.

Hans F. Bober

OBITUARY

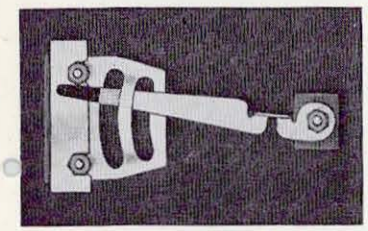
William F. Cummings, chief engineer of the Boston & Maine, the Maine Central and the Portland Terminal, with headquarters at Boston, Mass., died at his home in Marblehead, Mass., following an operation, at the age of 54. Mr. Cummings was born in Charlestown, Mass., on December 9, 1887, and entered the service of the Boston & Maine on October 22, 1906, as a rodman in the engineering department. Advancing successively through various positions in this department, he became assistant engineer in the office of the valuation engineer on April 1, 1914. On January 1, 1921, he was promoted to valuation engineer and in January, 1926, he assumed the additional duties of auditor of disbursements. On April 1, 1926, he was promoted to engineer maintenance of way and on November 1, 1928, he was further advanced to assistant chief engineer of the B. & M.. On August 1, 1936, Mr. Cummings was appointed assistant chief engineer of the Maine Central and the Portland Terminal. On December 19, 1938, he was appointed acting chief engineer of all three of these companies and on February 1, 1939, was named chief engineer of the same lines. At the time of his death Mr. Cummings was senior vice-president of the American Railway Engineering Association. Also he was a past director of the A. R. E. A., a past president of the New England Railroad Club and a member of the council of the American Standards Association, representing the Association of American Railroads.

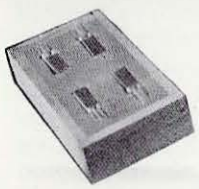
William F. Cummings

L. P. Harrell, manager of the local department of the Norfolk & Western, with headquarters at Roanoke, Va., died on March 9.

James J. Barry, assistant to superintendent motive power of the Norfolk & Western, with headquarters at Roanoke, Va., died on February 11 at the age of 68.

The object of most physical tests made on materials, equipment, and structures is to determine the magnitude, kind, and number of stresses—the amount of resistance a member or structure offers to loading, twisting, vibration, or distortion under specific conditions. Some of the many types of strain gages and auxiliary equipment needed in stress determination are the following:





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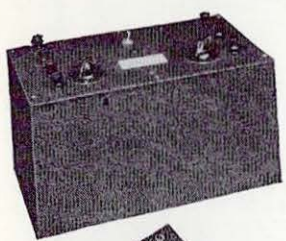

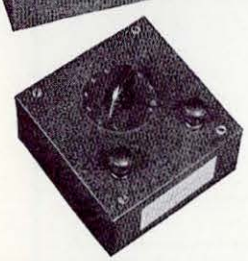

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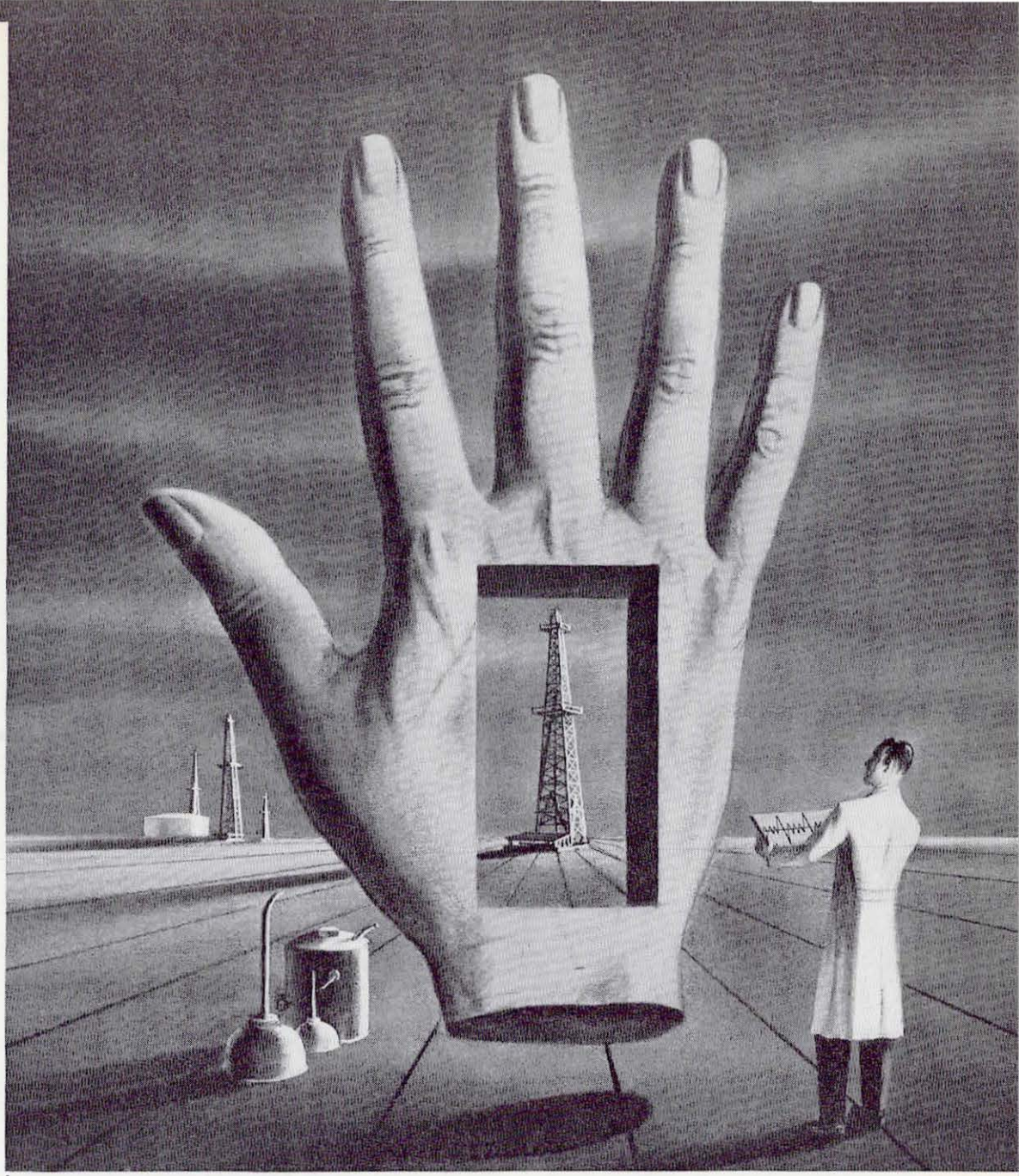

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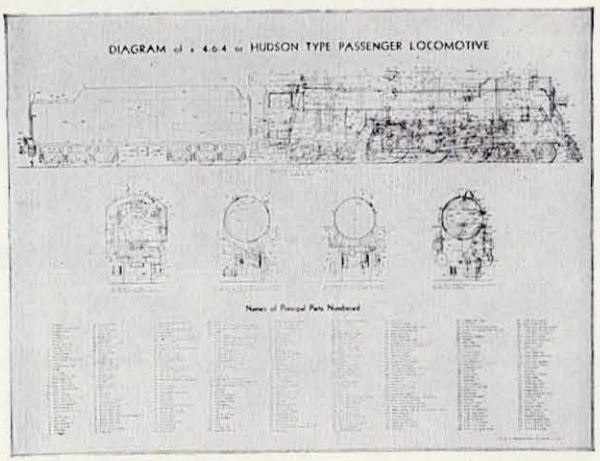

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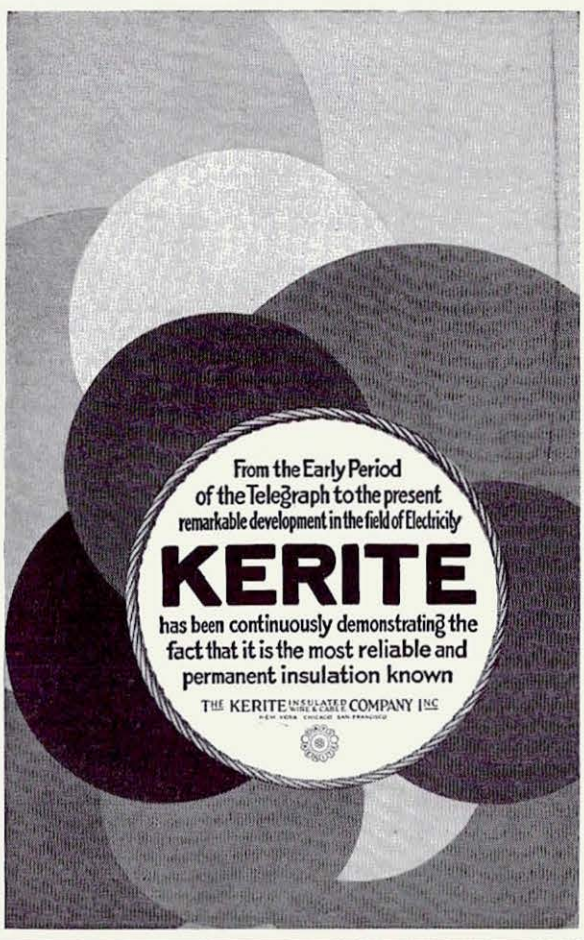
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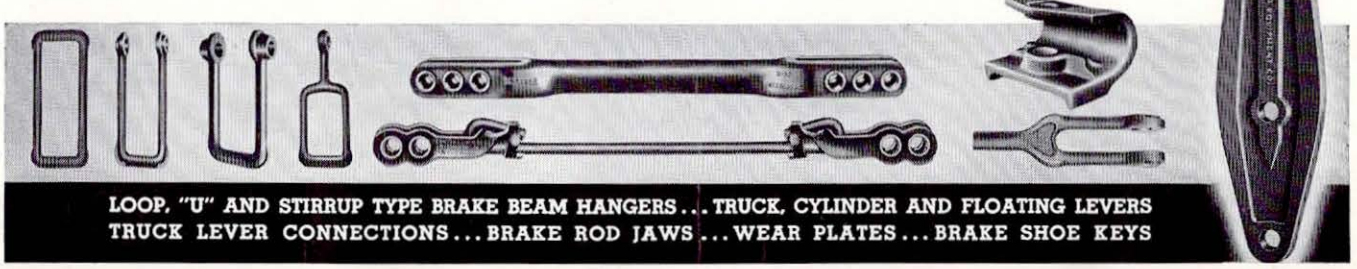

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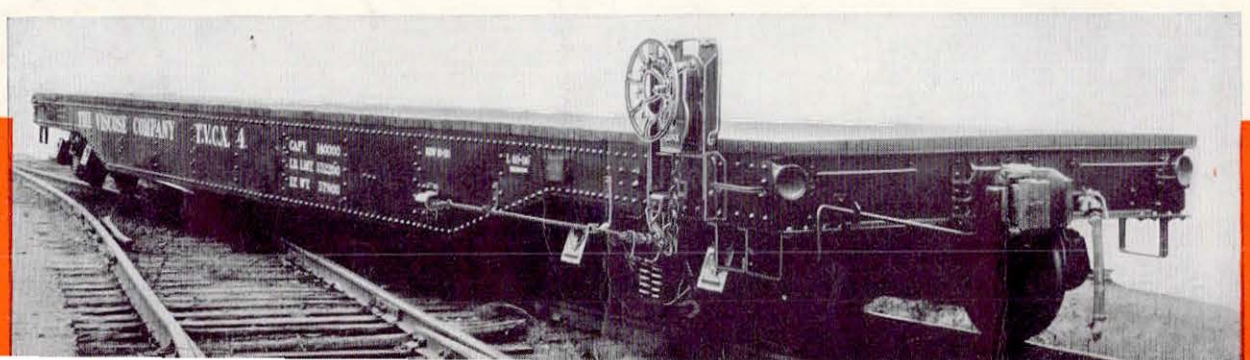
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